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ABSTRACT

A comprehensive study of the preparation of educational specifications for a new high school is reported. The needs and resources of the district are discussed including the setting of the educational program, history, inventory of facilities, and projected needs and enrollments. The scope of the educational functions are translated into drawings, and educational specifications are given for rooms, equipment and special areas. Consideration is given to the non-graded plan of organization for the elementary level, and to needs for special education facilities. The results of the high school curriculum study are included. (FS)

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EDUCATIONAL SPECIFICATIONS
for
HULL-DAISETTA HIGH SCHOOL
LIBERTY COUNTY, TEXAS

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FOREWORD

The Hull-Daisetta School Board on May 26, 1964, engaged the Bureau of Education Research and Services, University of Houston, to conduct a curriculum evaluation workshop with the high school faculty and to prepare educational specifications for a new high school building. The school faculty has held five workshop sessions during 1964-65 for the purpose of determining an adequate scope and sequence of curricular content to serve the needs of the school district. A concise chart of the proposed curriculum scope and sequence appears in Part IV of the report.

Curricular consultants from the College of Education, University of Houston, who participated in the inservice workshop project were: Dr. Loye Y. Hollis, Stanley G. Sanders, Dr. Marvin D. Sterrett, Dr. Milton Muse, and Dr. Harper F. Beaty. Special consultant for the elementary division on the ungraded primary organization was Dr. Joseph L. Fearing whose progress report appears in Part III of the report.

Prior to engaging the educational specification work, the school district had voted a one million dollar school plant construction bond issue. A school architect, George L. Ingram and Associates, had been employed to coordinate the several plant modernization projects. An elementary school building was designed and started in August 1964 to replace the obsolescent Hull elementary school. The program called for moving temporarily the high school program into the Hull building during 1965-66 while the old Daisetta high school building is to be demolished and replaced.

The educational specification work, completed by February 1965, is limited to the main academic unit of the Daisetta campus, although the consultants have advised on the total high school program and several modernization problems involved. Authors of sections of this report include Dr. Richard D. Strahan, Dr. Marvin D. Sterrett, and Dr. Joseph L. Fearing. Coordinator of the project is the undersigned who compiled and produced the educational specifications.

Wallace H. Strevell, Chairman
Department of Administration and
Supervision
University of Houston

February 1965

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Part I

NEEDS AND RESOURCES OF HULL-DAISETTA SCHOOL DISTRICT

In order to interpret the educational specifications of a school building into further decisive plans, a rather complete description of the school district and its environs is necessary. Such a description not only explains the reason for decisions made concerning the specific requirements of the proposed building, but it often shows the extent or the limitations of educational activities to be housed in the new building. Thus Part I of the report supplies descriptive background data concerning the school district and its program. Following this, Part II sets forth the exact educational specifications for the proposed new high school.

The Hull-Daisetta Independent School District and Liberty County are parts of one of the most dynamic areas of growth and industrial development in the United States. Change in its many aspects imposes a heavy burden of adjustment and development upon local governmental units. School districts are especially cognizant of these problems because of the necessity of modifying educational programs to meet the needs of youth attempting to enter the labor market.

Among questions to be answered in Part I are these: Is the Hull-Daisetta curriculum to be designed for only locally available occupations or should the curriculum prepare students for a variety of interests and occupations? What limitations and opportunities exist in the available enrollment and school district resources? What progress has been made by the school district and what will be its probable future directions?

Part I, therefore, consists of the following sections: (1) Setting of the educational program -- to see how it relates to its own community and the impact of the wider region; (2) History of Hull-Daisetta School District

-- to ensure understanding of local traditions and aspirations; (3) School plant facilities -- an appraisal of the existing school plant and contemplated modernization; (4) Enrollment, staffing, and finance -- how the school curriculum is affected by enrollment trends, the present school faculty, and financial resources.

SETTING OF THE EDUCATIONAL PROGRAM

The consultant staff proposes to analyze the setting of the educational program by first taking a look at the state, the region, the county, and the local school district. Special emphasis will be placed upon growth in population, economic development, and job opportunity in each of the aforementioned areas. Analysis of each of the areas will of necessity be limited, but will provide some insights into the nature of the struggle of education to stay abreast of the needs of youth in a developing economy.

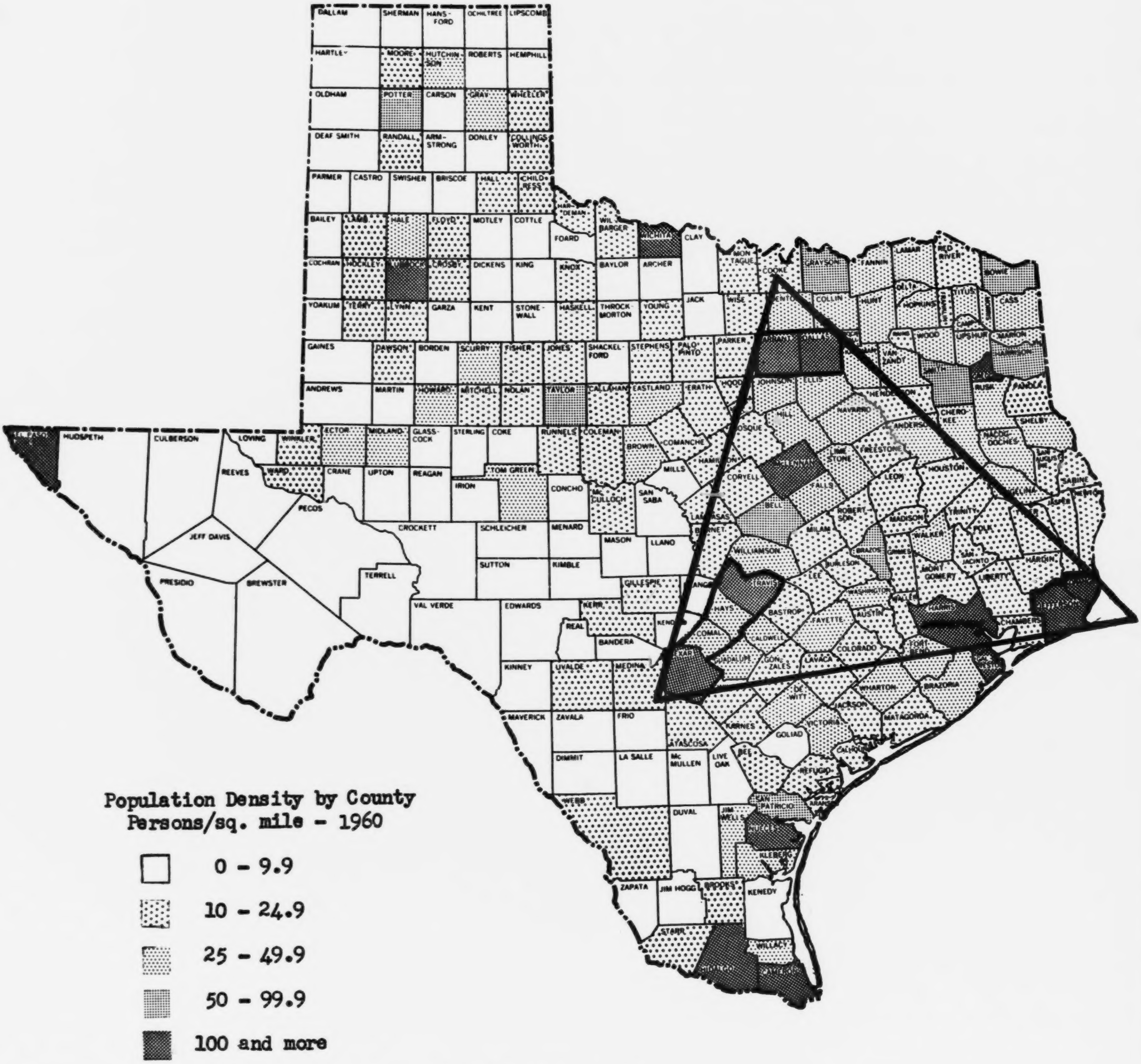
The State

Population trends. The most recent statistics on population, social, and economic characteristics are available from the 1960 census issued by the Bureau of the Census, United States Department of Commerce. Analysis of these data yields interesting insights. The national trend of migration from rural to urban areas is exemplified in Texas. Seventy-five per cent of the state's population now reside in areas having population of 2,500 or more. In addition to the urban migration, there is also a population movement toward the Gulf Coast. The equal division line for the state's population has been moving steadily toward the coastal area. Over the past thirty years this line has moved approximately fifty miles.

An interesting picture of population density over the state is shown in the county map on the following page. A quick scan of the densities as represented by the legend indicates that almost one-third of the 254 counties have densities of less than one person per square mile. As is indicated later in the study, many of the rural counties have lost population consistently for many years. The most pronounced development within the state falls within an equilateral triangle covering the east-central portion of the state. The triangle measures approximately three hundred miles on a side. The angles of the triangle are anchored by major metropolitan areas, and within its perimeter reside well over one half of the state's population. The majority of the state's taxable wealth represented by assessed valuations for school and other taxation is within this configuration. According to computation of the economic index for the local fund assignment for the state's minimum foundation program, Harris County alone represents approximately one-sixth of the tax-paying ability of the state.

Several marked population trends become evident as these population configurations are analyzed. Population density seems to follow two principal ridges. One substantial development provides the central backbone of the state and constitutes the principal inland market in the state. This population ridge begins in the Dallas-Fort Worth area and extends southward through McLennan, Travis, and Bexar Counties. The coastal population ridge is the other principal feature. It begins in the southeast corner of the state in Orange and Jefferson Counties and includes Harris, Galveston, Nueces, Hidalgo, and Cameron Counties, deep in the Rio Grande Valley.

Outside of these pronounced configurations there are only four other counties with population densities of more than 100 persons per square mile;


DALLAM
SHERMAN
HANSFORD
OCHILTREE
LIPSCOMB
HARTLEY
MOORE
HUTCHINSON
ROBERTS
HEMPHILL
OLDHAM
POTTER
CARSON
GRAY
WHEELER
DEAF SMITH
RANDALL
ARMSTRONG
DONLEY
COLLINGSWORTH
PARMER
CASTRO
SWISHER
BRISCOE
HALL
CHILDRESS
HARDEMAN
BAILEY
LAMB
HALE
FLOYD
MOTLEY
COTTLE
FOARD
WILBARGER
WICHITA
CLAY
MONTAGUE
COOKE
GRAYSON
FANNIN
LAMAR
RED RIVER
BOWIE
COCHRAN
HOCKLEY
CROSBY
DICKENS
KING
KNOX
BAYLOR
ARCHER
JACK
WISE
COLLIN
HUNT
CASS
YOAKUM
TERRY
LYNN
GARZA
KENT
STONEWALL
HASKELL
THROCKMORTON
YOUNG
WOOD
MARION
GAINES
DAWSON
BORDEN
SCURRY
FISHER
JONES
SHACKELFORD
STEPHENS
PALO PINTO
PARKER
VAN ZANDT
ANDREWS
MARTIN
HOWARD
MITCHELL
NOLAN
TAYLOR
CALLAHAN
EASTLAND
ERATH
HOOD
JOHNSON
ELLIS
HENDERSON
RUSK
PANOLA
CHEROKEE
SHELBY
EL PASO
HUDSPETH
CULBERSON
LOVING
WINKLER
ECTOR
MIDLAND
GLASSCOCK
STERLING
COKE
RUNNELS
COLEMAN
BROWN
COMANCHE
BOSQUE
HILL
NAVARRO
ANDERSON
NACOGDOCHES
SAN AUGUSTINE
SABINE
REEVES
WARD
CRANE
UPTON
REAGAN
TOM GREEN
IRION
CONCHO
McCULLOCH
SAN SABA
MILLS
HAMILTON
CORYELL
McLENNAN
LIMESTONE
FREESTONE
LEON
HOUSTON
ANGELINA
PECOS
CROCKETT
SCHLEICHER
MENARD
MASON
LLANO
BURNET
BELL
FALLS
ROBERTSON
MADISON
TRINITY
POLK
JEFF DAVIS
PRESIDIO
BREWSTER
TERRELL
SUTTON
KIMBLE
GILLESPIE
WILLIAMSON
MILAM
BURLESON
BRAZOS
GRIMES
WALKER
SAN JACINTO
MONTGOMERY
LIBERTY
HARDIN
TRAVIS
LEE
WASHINGTON
VAL VERDE
EDWARDS
KERR
KENDALL
HAYS
BASTROP
FAYETTE
AUSTIN
WALLER
HARRIS
JEFFERSON
CHAMBERS
REAL
BANDERA
COMAL
CALDWELL
COLORADO
FORT BEND
GALVESTON
KINNEY
UVALDE
MEDINA
BEXAR
GUADALUPE
GONZALES
LAVACA
WHARTON
BRAZORIA
MAVERICK
ZAVALA
FRIO
ATASCOSA
WILSON
KARNES
DE WITT
JACKSON
MATAGORDA
VICTORIA
GOLIAD
CALHOUN
REFUGIO
ARANSAS
DIMMIT
LA SALLE
McMULLEN
LIVE OAK
BEE
SAN PATRICIO
NUECES
WEBB
DUVAL
JIM WELLS
KLEBERG
ZAPATA
JIM HOGG
BROOKS
KENEDY
STARR
HIDALGO
WILLACY
CAMERON
Population Density by County
Persons/sq. mile - 1960
0 - 9.9
10 - 24.9
25 - 49.9
50 - 99.9
100 and more

Source: Research Department, Houston Chamber of Commerce,
based on U. S. Census of Population, 1960.

MAP SHOWING POPULATION DENSITY BY COUNTY, 1960 the remainder of the state is predominantly rural. Careful study should be directed to the metropolitan areas of the state since the tremendous concentrations of population in these areas will provide the state with an unequal proportion of problems of providing basic public services including schools.

Education and economic factors. At the 1960 census the state's total population stood at 9,581,508. The mobility factor continues to be an impressive statistic indicating that about one-third of the state's population had moved in the previous five years. Over 682,000 persons had moved into the state from either foreign countries or other states. Much of this inmigration represents technical manpower needed to fuel the state's industrial and technological growth.

One of the most serious educational and economic drags on the state is illustrated in Table I with respect to the general educational level of adults 25 years of age or older.

The 672,226 adult persons who have a fourth grade education or less are either illiterate or functionally illiterate and are the core of the constant pool of unemployed people in the state. They are heavily dependent upon welfare agencies and would likely resist general programs of improvement which must be submitted to public referendum. Automation and changing job technology make it imperative that every community within the state become aware of this problem and work tirelessly toward its solution before further job evolution augments the problem.

The general effect of the low level of general educational attainment is reflect in family incomes received during the year of 1959 as shown in Table II.

TABLE I

YEARS OF SCHOOL COMPLETED BY PERSONS 25 YEARS OF AGE OR OLDER IN TEXAS

Number of School Years Completed	State	Urban	Rural
No school years completed	204,045	139,115	64,930
Elementary: 1-4 years	468,181	309,253	158,928
5-6 years	477,491	319,044	158,447
7 years	364,732	238,911	125,821
8 years	539,714	371,783	167,931
High School: 1-3 years	986,842	726,553	260,289
4 years	1,095,017	868,697	226,320
College 1-3 years	491,090	412,931	78,159
4 years or more	403,447	349,546	53,901
Median Years Completed	10.4	11.0	8.8

Source: Social and Economic Characteristics of the Population For the State by Size of Place, 1960. Bureau of Census, U. S. Department of Commerce, PC (43) - 45, 1962.

Data providing equally important insights concerning future educational development are found in occupational studies. Job opportunities for those who have educational handicaps and low job skills are becoming increasingly restricted. The industries which provide job pools for the laboring type of job are not contributing a significant number of earning opportunities (Table III). Since most of these jobs are in agriculture or mining there is an economic dislocation; a majority of the persons needing such employment now live in urban areas of the state.

TABLE II

FAMILY INCOMES IN TEXAS IN 1959

Income Level	State	Urban	Rural
Total Families	2,392,564	1,791,720	600,844
Under $1,000	181,269	103,344	77,925
$1000 - 1,999	249,583	149,261	100,322
$2000 - 2,999	257,113	173,925	83,188
$3000 - 3,999	271,008	197,061	73,947
$4000 - 4,999	268,523	203,489	65,034
$5000 - 5,999	265,806	207,667	58,142
$6000 - 6,999	224,259	181,061	43,198
$7000 - 7,999	172,413	144,137	28,276
$8000 - 8,999	128,072	108,523	19,549
$9000 - 9,999	91,513	78,582	12,549
$10,000 or over	283,005	244,673	38,332
Median Income	$ 4,884	$ 5,331	$ 3,527

Source: Social and Economic Characteristics of the Population, For the State by Size of Place. Bureau of Census, U. S. Department of Commerce, PC (43) - 45, 1962.

TABLE III

JOBS AVAILABLE IN TEXAS CATEGORIZED BY INDUSTRY

Type of Job	State	Urban	Rural
Agriculture, Forestry, Fisheries	291,899	59,064	232,835
Mining	100,162	71,087	29,075
Construction	251,938	193,472	58,466
Durable Goods Manufacturing	250,214	201,184	49,030
Non-Durable Goods Manufacturing	289,947	244,626	45,321
Transportation and Public Utilities	245,949	205,180	40,769
Wholesale and Retail Trade	703,969	586,081	117,888
Finance, Insurance, and Real Estate	138,230	124,951	13,279
Business and Repair Services	88,614	74,704	13,910
Personal Services	263,928	219,459	44,469
Entertainment and Recreation	23,971	21,069	2,902
Professional and Related Services	372,777	312,617	60,160
Public Administration	162,918	137,207	25,711
Industry Not Reported	133,987	122,405	21,582
Total Employed	3,318,503	2,563,106	572,410

Source: Social and Economic Characteristics of the Population, For the State by Size of Place. Bureau of Census, U. S. Department of Commerce, PC (43) - 45, 1962.

Several authorities expect that within the next five years the state will have a manpower shortage of sizable proportions, especially in the Gulf Coast region. The most acute needs will be evident in the trained or qualified manpower classifications. Professional, skilled, and semi-skilled workers will be in short supply while an over-supply now exists and will continue in the case of unskilled labor. The continued growth of the unskilled labor pool and the dwindling of job opportunities for them provide a challenge of significant proportion to the educational and public institutions of the state. The local school district should not overlook the unproductive future of the "drop-out."

The Region

Recent studies of the Houston - Gulf Coast describe it as an area of unprecedented industrial and economic growth with a potential for more spectacular progress in the next decade than has previously occurred. The many industrial and scientific firms participating in the National Aeronautic and Space Administration's Manned Spacecraft Program will make stringent demands upon the human resources available. There is high demand for technologically skilled workers in an area anchored at each end with petrochemical or industrial complexes.

Population factors. The Southeast region of the Texas Gulf Coast area is composed of nineteen counties which, according to the Advance Report of the 1960 Census, contain almost twenty-five per cent of the total Texas population. These counties carry a large proportion of the financial burden for public services at the state level as well as at the local level. Included in the services are those provided by the public education program.

Population growth in the nineteen-county area has been tremendous and has resulted in far-reaching educational changes with respect to the need for physical facilities, curricula, staff, finances, and administration. The pattern of growth is far from uniform however. Several counties in the area have actually suffered a population loss, while others have had population expansion less rapid than the state or national average.

The following map, Population Trends In Nineteen-County Area of The Texas Gulf Coast, which is keyed to population factors in Table IV indicates three important facets of this problem:

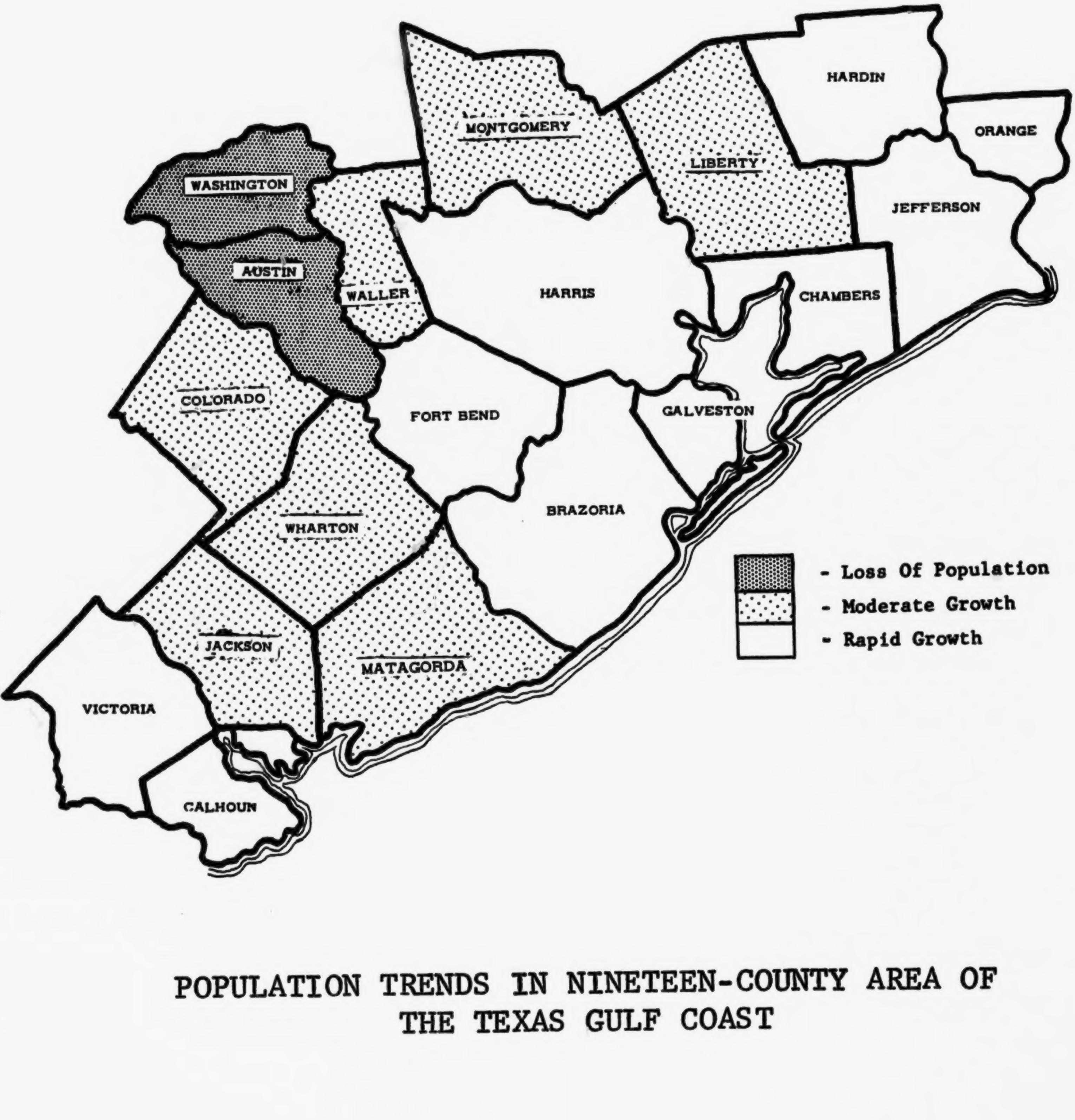
(1) Pattern of consistent population loss over a thirty-year period; Washington and Austin Counties (deeply shaded). Outmigration has continued to surpass natural growth factors such as inmigration and fertility.

(2) Pattern of static growth below the state and national averages; seven counties (lightly shaded).

(3) Pattern of growth well above the state and national averages; ten counties (unshaded). Harris, Galveston, Jefferson, and Orange Counties carry the brunt of large increases.

Rates of change in the Gulf Coast population varie from one decade to another within a county as well as from county to county. The industrialized counties with their large metropolitan areas show accelerated rates of growth so that the differentials continue to spread. Orange County population mushroomed with a 133 per cent growth during the 1940-1950 decade, while during the same period Washington County lost 24 per cent. The nation-wide movement from rural areas to urban areas tends to be accentuated in the Gulf Coast area.

A useful concept of population distribution is the average number of persons per unit of territory. The nineteen counties in Table IV ranged in 1960 from 13 persons per square mile in Chambers County to 712 persons per


HARDIN
MONTGOMERY
ORANGE
LIBERTY
WASHINGTON
JEFFERSON
AUSTIN
WALLER
HARRIS
CHAMBERS
COLORADO
FORT BEND
GALVESTON
BRAZORIA
WHARTON
JACKSON
MATAGORDA
VICTORIA
CALHOUN
▨ - Loss Of Population
░ - Moderate Growth
☐ - Rapid Growth

POPULATION TRENDS IN NINETEEN-COUNTY AREA OF THE TEXAS GULF COAST

TABLE IV

POPULATION TRENDS IN SELECTED COUNTIES OF THE GULF COAST AREA OF TEXAS

COUNTY	POPULATION (Thousands)				PER CENT INCREASE			AREA IN SQ. MI.	POPULATION PER SQ. MILE			
	1930	1940	1950	1960	1930-1940	1940-1950	1950-1960		1930	1940	1950	1960
Austin	19	17	15	14	− 8	− 19	− 6	662	26	26	22	19
Brazoria	23	27	47	76	+17	+ 72	+64	1,441	17	19	32	57
Calhoun	5	6	9	17	+10	+ 56	+80	537	10	11	17	25
Chambers	6	8	8	10	+32	+ 5	+32	618	9	12	13	13
Colorado	19	18	18	18	− 7	− 1	+ 5	980	20	19	19	19
Fort Bend	30	33	31	41	+11	− 6	+30	862	38	38	36	51
Galveston	64	81	113	140	+26	+ 39	+24	475	163	189	263	355
Hardin	14	16	20	25	+14	+ 23	+26	885	16	18	22	29
Harris	359	529	807	1,243	+47	+ 53	+54	1,730	217	303	462	712
Jackson	11	12	13	14	+ 7	+ 10	+ 9	854	12	14	15	16
Jefferson	133	145	195	246	+ 9	+ 34	+26	945	145	154	206	267
Liberty	20	25	27	32	+24	+ 9	+18	1,173	17	21	23	27
Matagorda	18	20	22	26	+14	+ 7	+19	1,141	16	18	19	23
Montgomery	15	23	25	27	+58	+ 6	+10	1,090	14	21	22	26
Orange	15	17	41	60	+15	+133	+49	356	42	49	114	166
Victoria	20	24	31	46	+18	+ 32	+49	883	23	27	35	52
Waller	10	10	12	12	+ 3	+ 16	+ 1	507	19	20	24	23
Washington	25	25	21	19	0	− 24	− 7	611	40	42	34	30
Wharton	30	36	36	38	+22	0	+ 6	1,079	27	34	33	34
TOTAL	836	1,072	1,491	2,104	+28	+ 39	+41	16,829	50	64	88	125
STATE	5,825	6,415	7,711	9,580	+10	+ 20	+24	263,513	22	24	29	36

Sources: **Texas Almanac; Advance Report of 1960 Census of Population for Texas** square mile in Harris County. Enrollment trends and school facility needs have varied proportionately. Per capita cost of students in rural communities increased due to sparsity for equivalent educational services available in urbanized areas. Some counties are benefited and others are penalized by current finance practices in the state's formula for minimum foundation program assistance. Future state legislation should reflect more closely the impact of rapid growth in school services.

Education and economic factors. A recent study completed by the Texas Employment Commission, entitled Manpower Patterns Through 1966 in 8 County Houston - Gulf Coast Area,[1] further emphasizes the inferences drawn from the 1960 Census. This manpower study included Brazoria, Chambers, Fort Bend, Galveston, Harris, Liberty, Montgomery, and Waller Counties. It was designed to determine manpower needs over a five-year period. The bar graphs on the following page depict the industrial and occupational composition of employment 1962-66. Expressed in percentages, anticipated growth in each of the occupational groups is as follows:

Semiprofessional - - - - - 32%
Sales - - - - - - - - - - - 26%
Professional - - - - - - - 24%
Skilled - - - - - - - - - - 19%
Clerical - - - - - - - - - - 18%
Semiskilled - - - - - - - - 17%
Services - - - - - - - - - - 16%
Unskilled - - - - - - - - - 15%
Managerial - - - - - - - - - 8%

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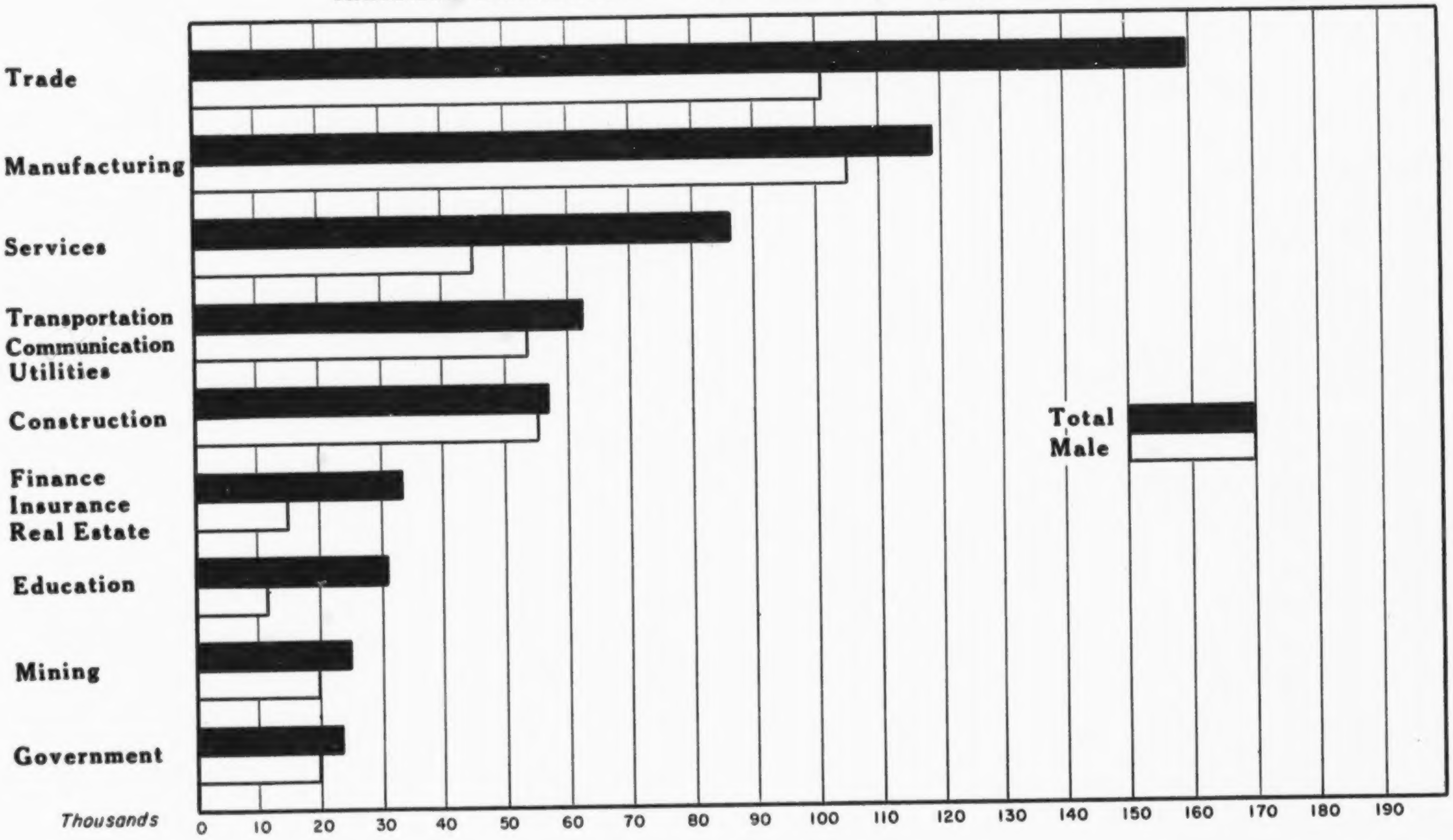
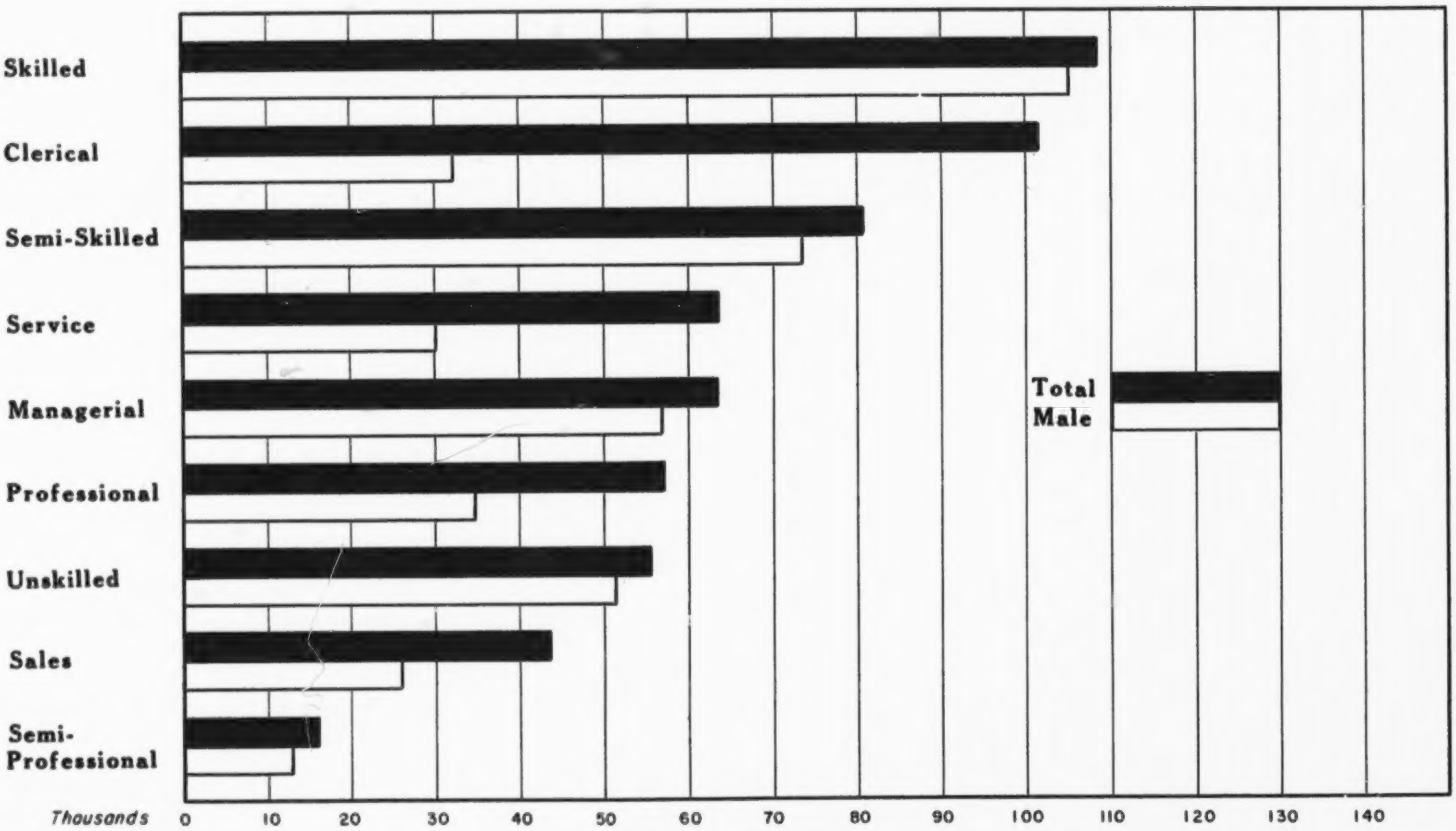
[1] Manpower Patterns Through 1966 in 8-County Houston - Gulf Coast Area. Texas Employment Commission, Austin, Texas, December, 1962, p. 32.

Industrial Distribution of Total and Male Employment 1962



Occupational Distribution of Total and Male Employment 1962



Source: Manpower Patterns Through 1966 in 8-County Houston - Gulf Coast Area. Texas Employment Commission, Austin, Texas, December, 1962.

FIGURES SHOWING INDUSTRIAL AND OCCUPATIONAL DISTRIBUTION
OF TOTAL AND MALE EMPLOYMENT 1962

Changes in occupational composition within the area will be gradual. Professional, semiprofessional, and sales categories will be increasingly important parts of the labor force; but the relative importance of semiskilled and unskilled groups will decline. Clerical service and skilled jobs will command in 1966 about the same share of the area's work force they presently hold.

Schools and training agencies are in a position to contribute in significant fashion to the growth of the manpower pool. It is estimated that 115,000 graduates of various schools will seek employment during the five-year period. During the same period, some 45,000 who do not complete the course of study they have undertaken will also become job seekers. Of this group, 25,000 will have completed high school but dropped out of other formal educational programs. A cause for more immediate concern are some 20,000 workers who will be seeking employment without having completed high school or formal training of even more limited nature. What are these unskilled non-graduates going to do when they attempt to enter the labor market? Recent studies in other regions indicate that eighty per cent will be on the unemployed list within one year and that they will not be readily employable.

It is highly important that liaison and communication between the business community and the schools be improved. Counselors and students should be informed of the projected development of the industrial complex. Teachers should be placed in summer employment in positions related to their skills or fields of instruction to keep them informed as to new industrial development, relating theory to practice.

Better teachers' salaries and working conditions must be made available during the five-year period because educators and teachers will be in demand. Over 10,000 additional professional employees will be added to area schools. Recruiting techniques and salary schedules must reflect an emphasis on selectivity and quality. The degree to which these problems are solved will be reflected in the continued growth, dynamism, and prosperity of the area.

The County

Liberty County is a semi-rural county lying astride Highway 90 which links two industrial complexes. Houston, Harris County lies to the west, and Jefferson and Orange Counties to the east. Liberty County is sufficiently removed from either so that overflow from the metropolitan areas has not made a significant impact on the area to the present time. The development of the Trinity River program to improve navigation and wildlife resources should bring future development on an unprecedented scale. Good water and rail transportation in addition to principal highways should change the local economy by attracting industry which seeks to reach a potential market of over 2,000,000 people within a two-hour driving period.

The county is a large one geographically, covering 1,173 square miles. Its labor force has some 11,200 workers of whom 6,765 are engaged in non-agricultural, non-domestic labor. The income total for 1960 was $38,600,000 with payrolls approximately $13,000,000 of the total. There are 468 commercial farms averaging 924 acres per farm with land and building values averaging $76,559 per farm.

Population factors. Current population of Liberty County is estimated at 32,000. The 1960 Census showed 31,585 persons which is an 18.2 per cent growth over the 26,729 reported in 1950. Average growth of the county over the past three decades has been 17 per cent for each ten-year period. The

State as a whole with a 24 per cent climb has grown faster than Liberty County between 1950-1960. The comparatively slow growth of this area is reflected in a low fertility ratio probably caused by an outmigration of youth who have entered the metropolitan labor market.

It is estimated there are 8,800 households in the county containing 9,300 consumer-spending units with a net effective buying income of $43,825,000, averaging out to $4,980 per household. Farm income in a recent year reached $7,100,000 yielded by crops and livestock production.

Liberty County is also rich in timber and minerals. In 1960, mineral production reached $44,500,000 with oil, sulfur, natural gas, sand, gravel, and natural gas liquids being produced in commercial quantities. Additional income is derived from activities which attract hunters, swimmers, boatmen, and fishermen. Water, the principal liquid asset of the county, has not been amply developed. Adequate supplies are available for household consumption, irrigation, and industrial use.

Education and economics. It is estimated that 2,235 job opportunities will exist in Liberty County over the five-year period of 1962-66.[2] The jobs represent both replacement and growth in the labor market of the county. This total will not meet the need of local youth for job opportunities. Outmigration will continue to retard the rate of growth which would result from adequate job opportunities in the local labor market. It is imperative that the local school districts carry an adequate program to equip rural youth for entry into and competition within the metropolitan industrial complex and economy.

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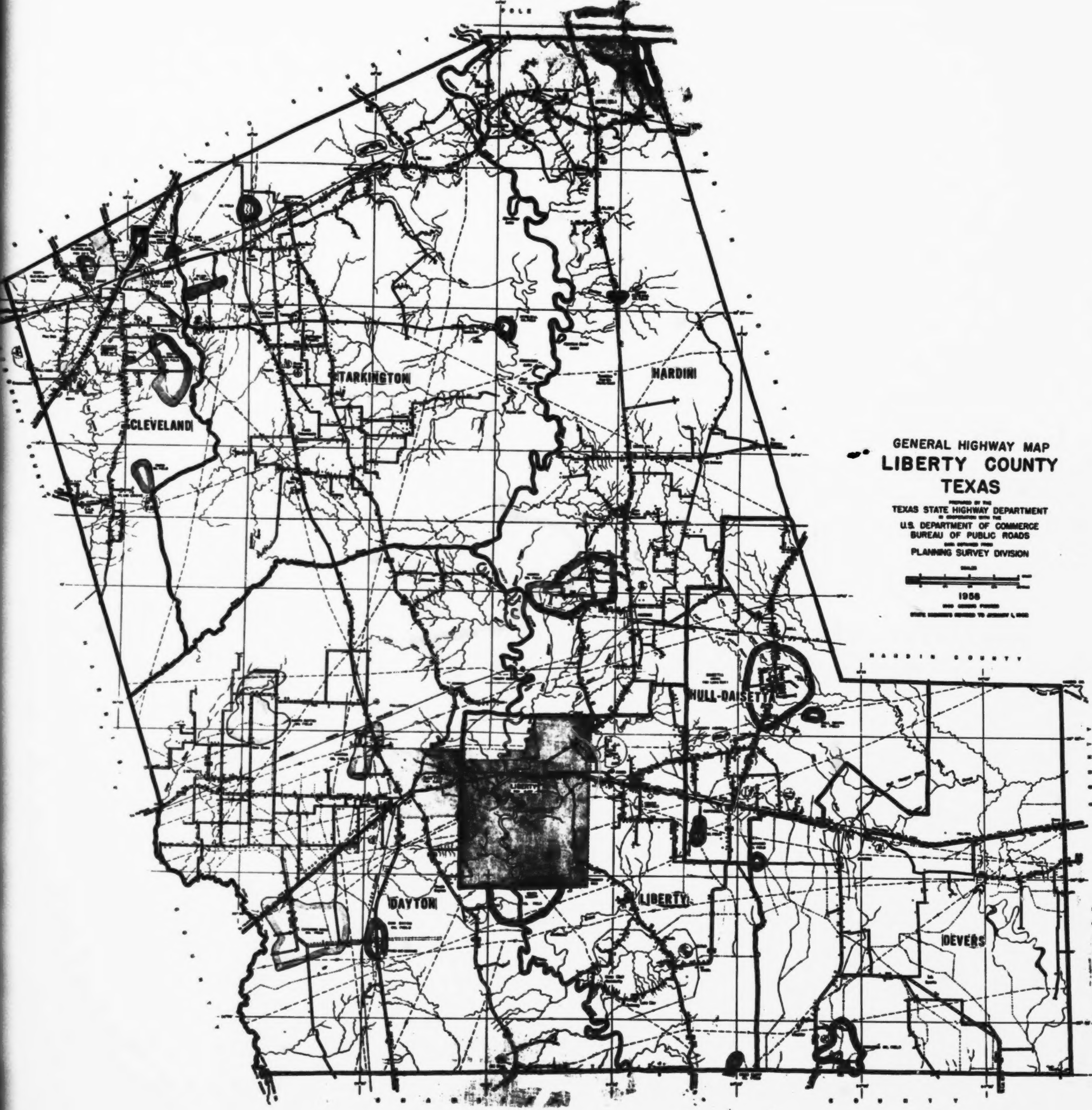
[2] Manpower Patterns Through 1966, In 8-County Houston Gulf Coast Area. Texas Employment Commission, Austin, Texas, December, 1962, p. 48.

Maximum effort should be expended to eliminate the educational "drop-out" and to ensure that each student can effectively function as an economic unit in society. The "drop-out" is seldom a long term problem in the rural community. His outmigration changes the focus of the problem to the urban complex which circumstance is aggravated by another potential delinquent who cannot find adequate employment. This problem must be solved at its source. The local community and its schools must combine their efforts to find adequate solutions in curriculum revision, work study programs, and other such means as will challenge this type of student.

School Districts

Educational responsibility for the county is borne by seven school districts as shown on The Liberty County School District Map. All of the districts are of substantial size, having from 70 to 248 square miles of area. All except one have less than 15 pupils in average daily attendance per square mile so most educational authorities would classify them as being rural in character. The school population has had only a small density increase in the past six years and can be characterized as fairly stable. A six-year comparison by total attendance and by average daily attendance appears in Table V. Analysis of the table discloses several school units so small as to suggest the need for school district reorganization or consolidation. A quality program cannot be devised in these small units without per pupil costs climbing to unreasonable levels.

Hull-Daisetta Independent School District, which is the subject of this study, is the smallest district in the county having an area of only 70 square miles. Its density, while rural in character, compares favorably with the more urbanized areas of the county. The school population within the


GENERAL HIGHWAY MAP
LIBERTY COUNTY
TEXAS
TEXAS STATE HIGHWAY DEPARTMENT
U.S. DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS
PLANNING SURVEY DIVISION
1958
CLEVELAND
TARKINGTON
HARDIN
HULL-DAISETTA
DAYTON
LIBERTY
DEVERS
HARDIN COUNTY

Liberty County School District Map

TABLE V

ATTENDANCE AND PUPIL DENSITIES FOR LIBERTY COUNTY SCHOOL DISTRICTS BY AVERAGE DAILY ATTENDANCE

District	Size Sq. Mi.	1958-59		1959-60		1960-61		1961-62		1962-63		1963-64	
		ADA	Density	ADA	Density	ADA	Density	ADA	Density	ADA	Density	ADA	Density
Cleveland	136	1775	13.05	1948	14.32	2001	14.71	2038	14.98	2108	15.50	2203	16.19
Dayton	248	1192	4.80	1228	4.94	1227	4.94	1266	5.10	1262	5.08	1364	5.49
Devers	172	162	.94	164	.95	166	.96	171	.99	157	.91	172	1.00
Hardin	204	551	2.70	565	2.76	560	2.74	581	2.84	580	2.84	569	2.78
Hull-Daisetta	70	824	11.77	843	12.04	821	11.72	815	11.64	797	11.38	800	11.42
Liberty	150	1809	12.06	1901	12.67	1959	13.06	2051	13.67	2084	13.89	2229	14.86
Tarkington	234	417	1.78	428	1.82	438	1.87	445	1.90	455	1.94	491	2.09

Source: Texas Public School Directory, Texas Education Agency, Austin, Texas.

Hull-Daisetta district is stable although there has been a small but consistent loss over the last six years. Improvement and expansion of the school program will of necessity depend upon curricular reorganization and the use of modern educational technology such as programed learning materials. Unless there is some change in the economics of the community, the gradual loss of students is likely to continue because of an outmigration of youth and a gradual decline in the fertility ratio due to aging population.

The prime ingredients of an outstanding educational program are sustained high expenditure and sufficiently high scholastic census to provide a basis for a broad curriculum. The absence of either of these factors imposes an additional burden upon the professional staff of the school to provide a quality program. When the financial support is inadequate, it is reflected in poor facilities, low faculty salaries, a shortage of teaching supplies, and outmoded instructional equipment. A low pupil census makes it difficult, if not impossible, to supply an adequate curriculum because there are so few pupils to elect the various alternate courses at the upper grade levels. Educational technology has now advanced to the point that such problems are coming within the scope of possible solution. It is the purpose of this report to examine the facets of these problems and the setting in which they are expressed in order to develop a set of educational specifications which embody sound and feasible solutions.

HISTORY OF HULL-DAISETTA SCHOOL DISTRICT

For many years the area surrounding Hull and Daisetta was a typical rural settlement. The land was utilized for farming and as pasture for cattle. A one-teacher school served its educational needs for many years.

The discovery of oil and the development of production brought an increased population. The one-teacher Oakdale School was soon inadequate so it became a two-teacher school. The history of Oakdale School has grown indistinct with the passing of time, but old-timers say it was located in back of Barngrover's homestead. Soon a second school was opened in a three-room building on the A. Merchant lease located in Common School District 21.

In 1921, by a special act of the legislature, the Hull Independent School District was organized and its board of trustees held their first meeting July 29, 1921. At this meeting, the school board purchased an old hotel building on the main highway in Daisetta and moved the Oakdale school nearer the business section. These school facilities soon became inadequate and a bunk-shack was donated by Humble Oil Company to enlarge them. The three-teacher school was continued at Hull and the equipment necessary to furnish an addition to Oakdale was purchased. Ten grades were taught, but there were no extra-curricular activities.

The program of the school district expanded to house a rapidly increasing school population. By 1922 a bond issue totaling $100,000 was voted. The school site was then expanded to ten acres through purchases and a gift. A wooden building was constructed to house the sixth through the tenth grades but the first five grades remained in the old hotel building. In 1923 the hotel building was abandoned. The first five grades were housed in temporary buildings and an eleventh grade was added to the school program.

The school faculty had expanded to thirty teachers by 1924-25 and modern equipment had been installed for home economics, commercial subjects, and a library. The high school boasted 4½ units of accredited studies during this school year.

The present buildings at Hull and Daisetta were started in early summer of 1925. Construction costs were funded by $190,000, proceeds of bonds issued in 1922 and 1925. The Daisetta building involved an outlay of $136,000. The Hull elementary building cost $44,000 plus acquisition of a new eight-acre site. The buildings were completed in December, 1925 and were occupied on January 2, 1926.

A special act of a called session of the 39th State Legislature in 1926 changed the name of the district to Hull-Daisetta Independent School District and enlarged its boundaries to their present locations. The enlarged school district was confronted with a transportation problem and a 45-passenger school bus was purchased to cope with it; later an even larger bus was purchased.

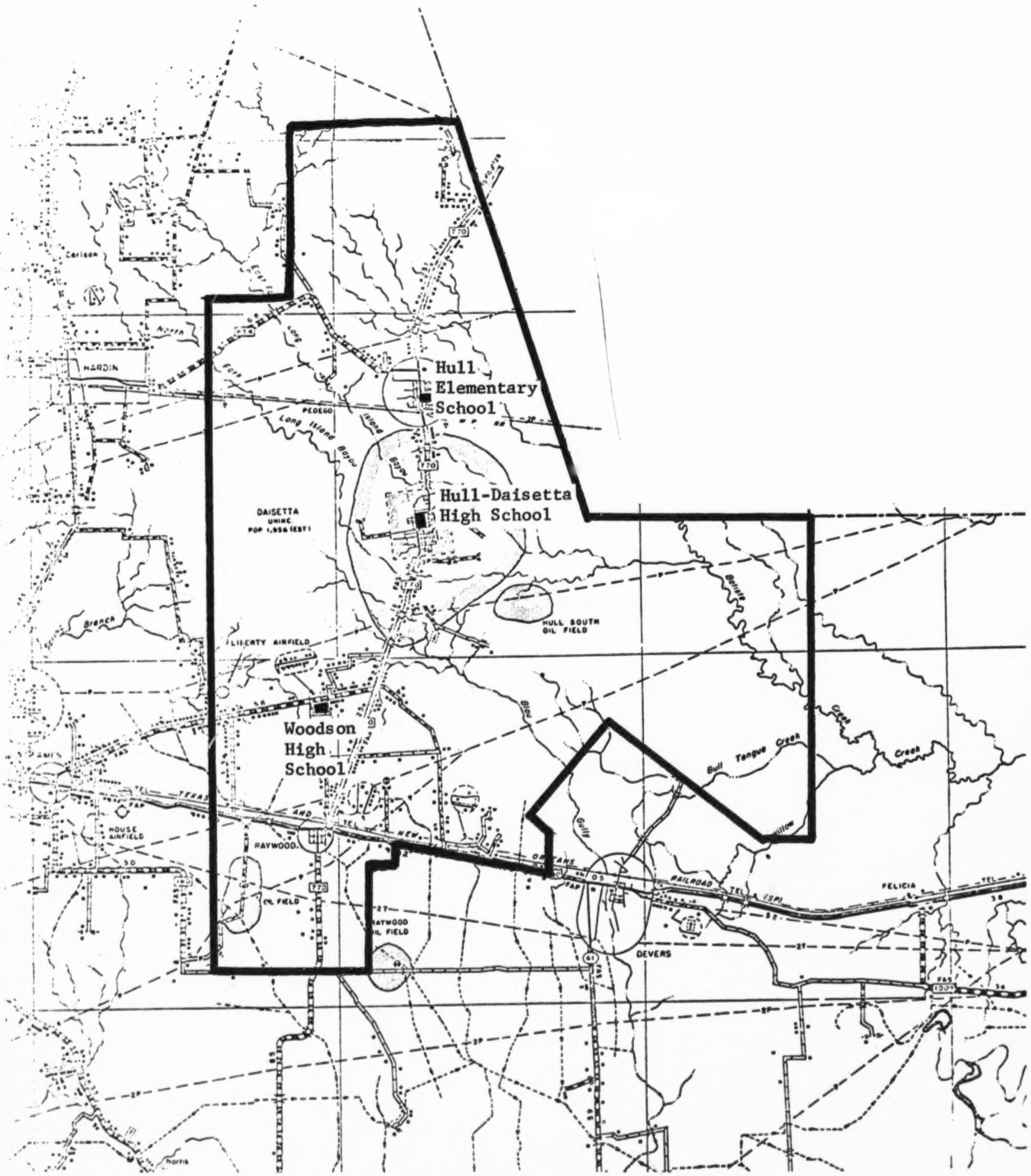
As the school district grew in enrollment, the curriculum was expanded to include 29½ units of affiliated credit. The Southern Association of Colleges and Schools extended membership to the Hull-Daisetta High School in 1929-30. As the student census increased, the teaching staff grew to a high of 42 teachers. It would seem that Hardin and Hull-Daisetta School Districts might have consolidated with benefit in terms of improvement of curriculum offerings. Devers School District might have found adequate programing by consolidating with either Liberty or Hull-Daisetta. Tarkington might also have explored consolidation possibilities. Consideration of the quality of program and the problem of distance in transporting students ought to control such decisions because it is the well-being of the student that should be the guide; but too frequently such decisions are based upon assessed valuation and tax rates resulting in restricted educational conditions.

Woodson School of the Hull-Daisetta school district was organized in 1938 by consolidation of three-two-teacher schools which were moved to the present school site. The two-teacher schools had been nothing more than neighborhood elementary schools conducted in crude, unsealed buildings. Teaching equipment had been in extremely short supply and of obsolete character, such as black oil cloth used for blackboards. School terms had been short varying from three to seven months with a normal term of four. Some years the terms were extended by the parents paying tuition to augment teachers' salaries. The old schools were heated with wood stoves and did not have electricity available. A new six-room frame building was erected to house the consolidated school and one old frame building was moved to the new campus as an extra classroom. High school work was then offered to the Negro students for the first time and the first class was graduated in 1942.

As the enrollment increased at the Woodson School site, there was a corresponding improvement in curriculum and buildings. Vocational agriculture, athletics, homemaking, and instrumental music were successively added to improve the curriculum. The present educational plant at the Woodson School site was built in three stages: the agricultural building was built in 1949, the present high school building in 1952, and the elementary school building and gymnasium in 1956.

SCHOOL PLANT FACILITIES - EXISTING AND PROPOSED

The school sites and existing facilities were evaluated by the school administration, the board of trustees, the architectural firm of George Ingram and Associates, and by the survey consultants. The site of the Hull Elementary School (ten acres) appears to be adequate for present and pro-


Hull Elementary School
Hull-Daisetta High School
Woodson High School
DAISETTA UNINC. POP 1,556 (EST)
HULL SOUTH OIL FIELD
LIBERTY AIRFIELD
HARDIN
PEDEGO
Long Island Bayou
Carlson
Spring Branch
RAYWOOD
RAYWOOD OIL FIELD
HOUSE AIRFIELD
AMES
Bull Tongue Creek
DEVERS
FELICIA
TEXAS AND NEW ORLEANS RAILROAD
770
61
Norris

MAP OF HULL-DAISETTA INDEPENDENT SCHOOL DISTRICT
SHOWING SCHOOL SITES

jected enrollments. It is located in a highly accessible position as shown on the school district map. The Woodson School site contains seven acres and while adequate for the present enrollment, it should be enlarged so that adequate playground is available for both elementary and secondary students. The Daisetta High School site contains ten acres but a large part of it is occupied by scattered buildings. If the athletic facilities were moved to the anticipated new land acquisition, the crowding of the main campus would be relieved. Present buildings on three school campuses are presented in the following photographs.

Hull Elementary School Plans

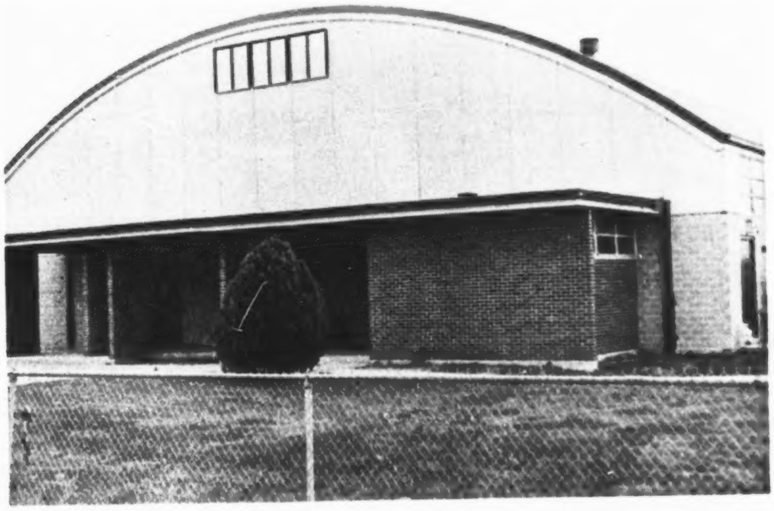
Both the gymnasium and the cafeteria of the Hull Elementary School are of recent construction. They should be put in good condition by the school maintenance force and remain a part of this school. The existing four-classroom primary building, which is also of recent construction, is being retained. It will be completely renovated and will become an integral part of the new elementary building. The new construction will completely replace the outmoded and obsolete facilities of the old elementary building. Addition of a new library and complete replacement of the 1925 vintage structure will eliminate the structural, fire, and sanitation hazards now present. A minimum of 300 new pupil stations will be provided. The new facilities will be air-conditioned, and it has been recommended that some space be carpeted.

The new elementary building is being built in front (west) of the existing main building. The elementary school will occupy the new building when it is completed. The old building will be retained for an additional year as a high school classroom building while the new high school is under construction after which the old main building is to be demolished.

Woodson Campus

Band Hall (new construction)

Woodson High School



Woodson Gymnasium

THE WOODSON SCHOOL CAMPUS

Main Street

Superintendent's Office

Hull-Daisetta High School Plans

The high school classroom building will be torn down in June of 1965 and a new air-conditioned building constructed to take its place on the same site in the same general location. During the school year of 1965-66, the academic program at the junior-senior high school level will be held to a great extent in the old Hull elementary building since the two campuses are a little over two miles apart. Both the industrial arts shop and the band hall are scheduled to be remodeled.

The auditorium, homemaking cottage, gymnasium, and cafeteria are to continue in use as they are, except for minor improvements by the school maintenance staff. It is anticipated that a new location in Daisetta near the high school site will be secured for a football field. The new location is planned to be adequate for a future high school site.

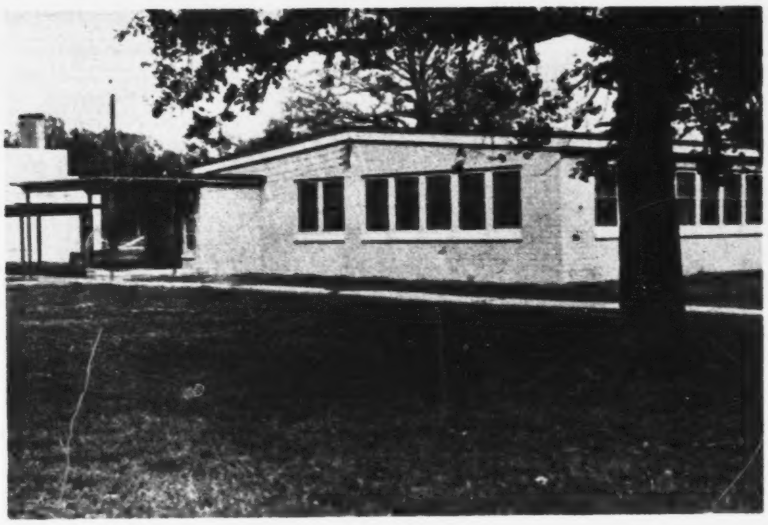
Woodson High and Elementary School Plans

The main building, of recent construction and in good condition, will be given some minor repair by the maintenance staff. The office will be enlarged and a women's faculty lounge will be added. A new band hall is under construction. The vocational agriculture building needs complete renovating to make it modern and adequate for its intended use.

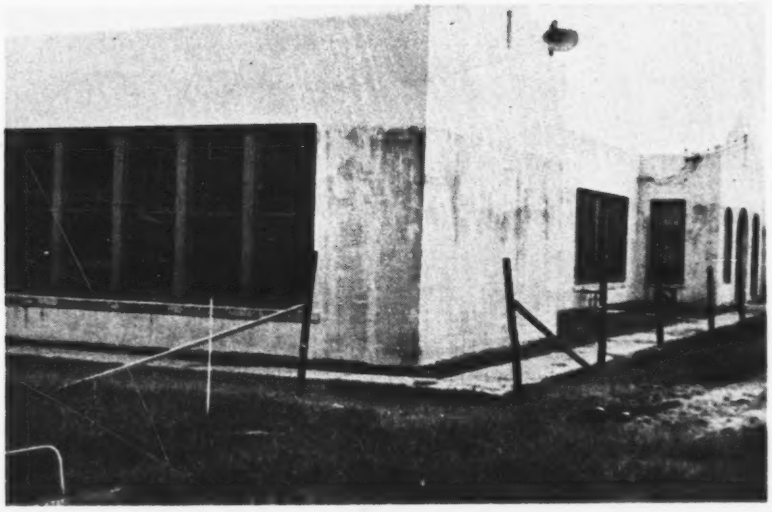
Construction Schedule as Currently Planned:

Phase I		Award Contract	Complete Construction
A.	Hull Elementary Classroom Building	9/1/64	8/1/65
B.	Woodson Band Hall	9/1/64	8/1/65
C.	Woodson Office Addition	9/1/64	8/1/65
D.	Woodson Teachers Lounge	9/1/64	8/1/65
E.	Remodel Woodson Shop	9/1/64	8/1/65
F.	Woodson Roof Repair	9/1/64	8/1/65

Gymnasium

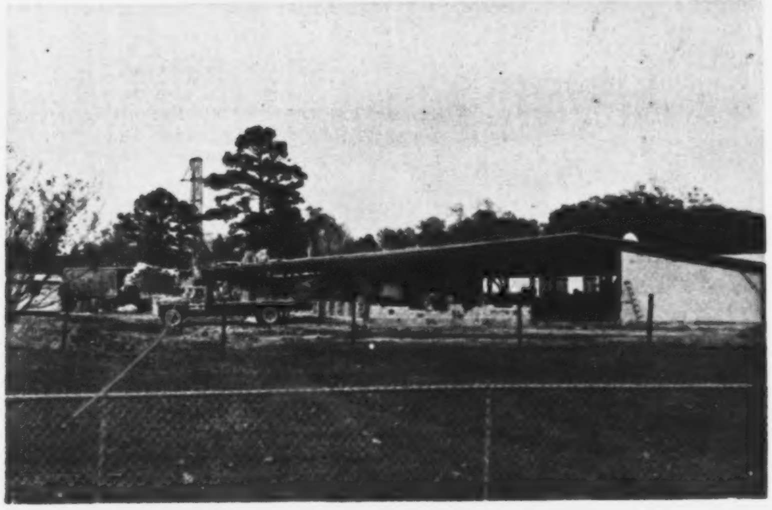


Cafeteria



Elementary Classroom (scheduled for demolition)

Classroom Building (under construction)



Classroom Building (under construction)

THE HULL ELEMENTARY SCHOOL CAMPUS

	Award Contract	Complete Construction
Phase II		
A. New Football Field Complete		1966
Phase III		
A. Daisetta High School Classroom Building	5/1/65	8/1/66
B. Remodel Daisetta High School Band Hall	5/1/65	8/1/65
C. Remodel Daisetta High School Shop Building	5/1/65	8/1/65
D. Miscellaneous Repairs at Daisetta	5/1/65	8/1/65
Phase IV		
This phase will consist of relatively minor items on each campus which would be desirable, but not necessary. A decision will be made on these items when cost figures on all other phases are complete.	6/1/65	8/15/65

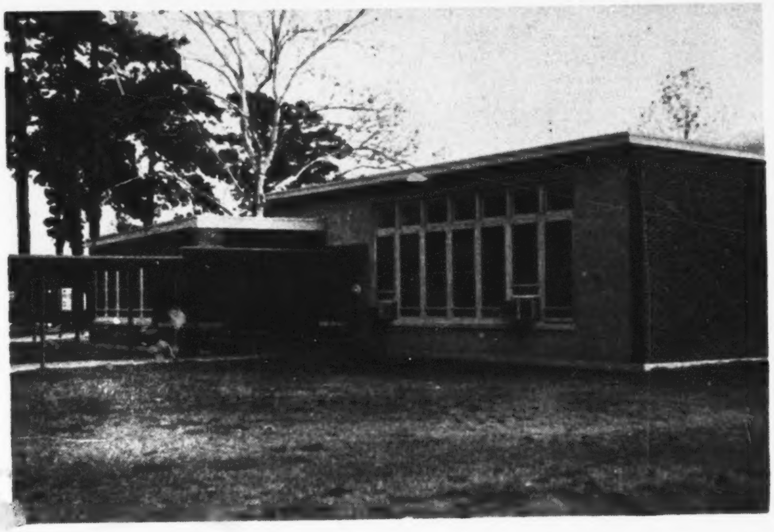
The construction schedule and projected plans assume that the three campuses will continue to operate as they are currently organized. The educational specifications detailed in Parts II and III have as their primary objective the improving of an already well-established educational program.

General Comments

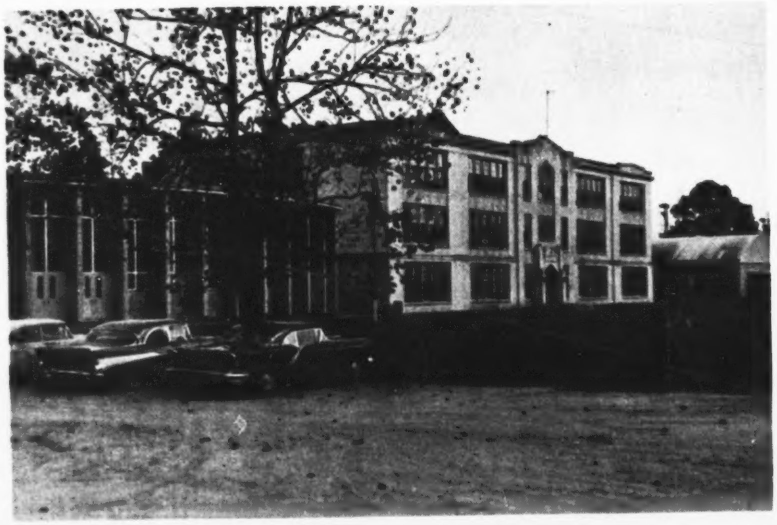
(1) The feasibility of extensive expenditures on the band and shop buildings on the Daisetta campus is questionable. The quonset steel building currently used for industrial arts shop will be expensive to renovate, and the results are likely to be disappointing. The band building which is of wood frame construction can not be improved a great deal without extensive renovation. These areas should be carefully restudied as discussed in Part II.

(2) The same careful evaluation should be made of any plans to remodel the Woodson High School vocational agriculture shop wood frame building. If the school district anticipates integration

Public School Auditorium

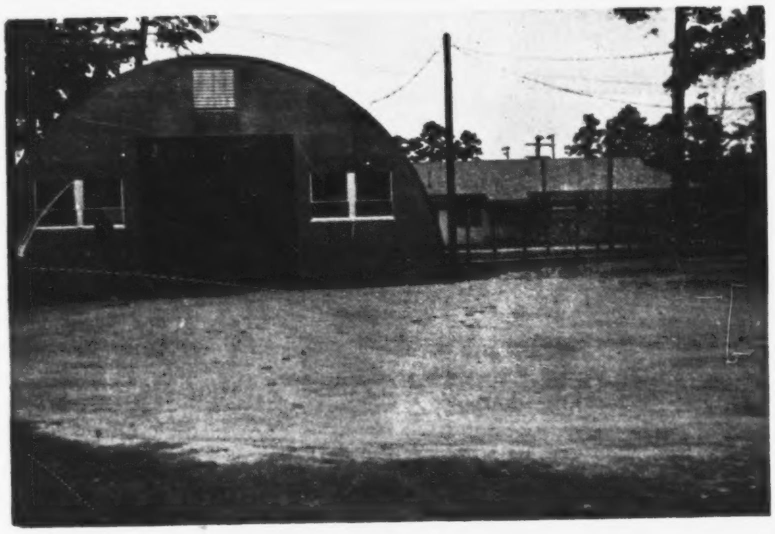


Home Economics Building

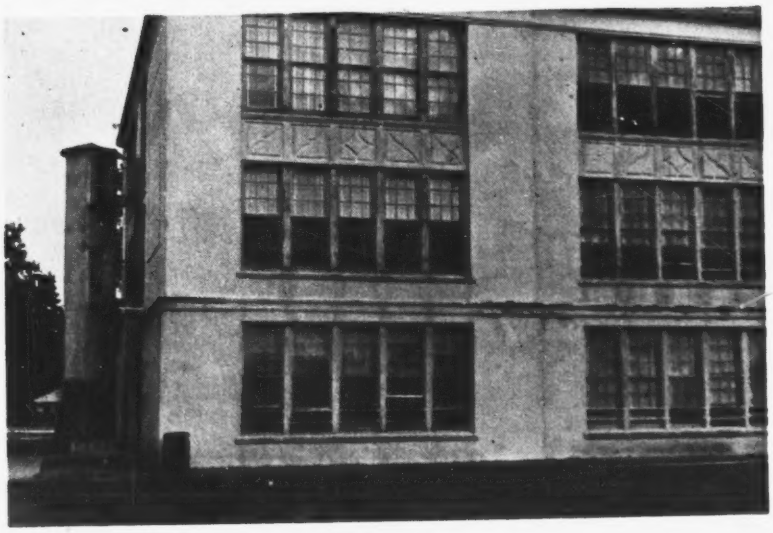


High School Classroom Building
(scheduled for replacement)

High School Gymnasium



Shop Building and Band Hall



High School Classroom Building
(showing fire escape)

THE HULL-DAISETTA HIGH SCHOOL CAMPUS

of its program, further investment in site and senior high school facilities at Woodson High School will dissipate school funds without adequate return.

(3) The present high school gymnasium will be more intensively occupied when the old high school building is removed. Shower facilities for both boys and girls appear to be already inadequate. Separation of the shower and storage facilities for athletics and the boys physical education program would relieve a portion of the problem.

(4) The schedule of outside maintenance such as painting, reglazing, sash work, and waterproofing should be stepped up to provide a more attractive appearance of the campuses and protect exterior trim.

(5) Careful studies should be made to evaluate power loads in older buildings such as home economics.

(6) Carpeting of the inner aisles of the high school auditorium would improve acoustics there.

(7) The administrative offices should be studied with consideration to possible enlargement and redecoration, or to relocation.

ENROLLMENT, STAFFING, AND FINANCE

Enrollment Projection

Analysis and comparison of Table VI, Scholastic Census By Age, and Table VII, Average Daily Attendance By Grade, bring out several significant facts concerning enrollment trends. The white student census has declined over a ten-year period as has the white student total in average daily

TABLE VI

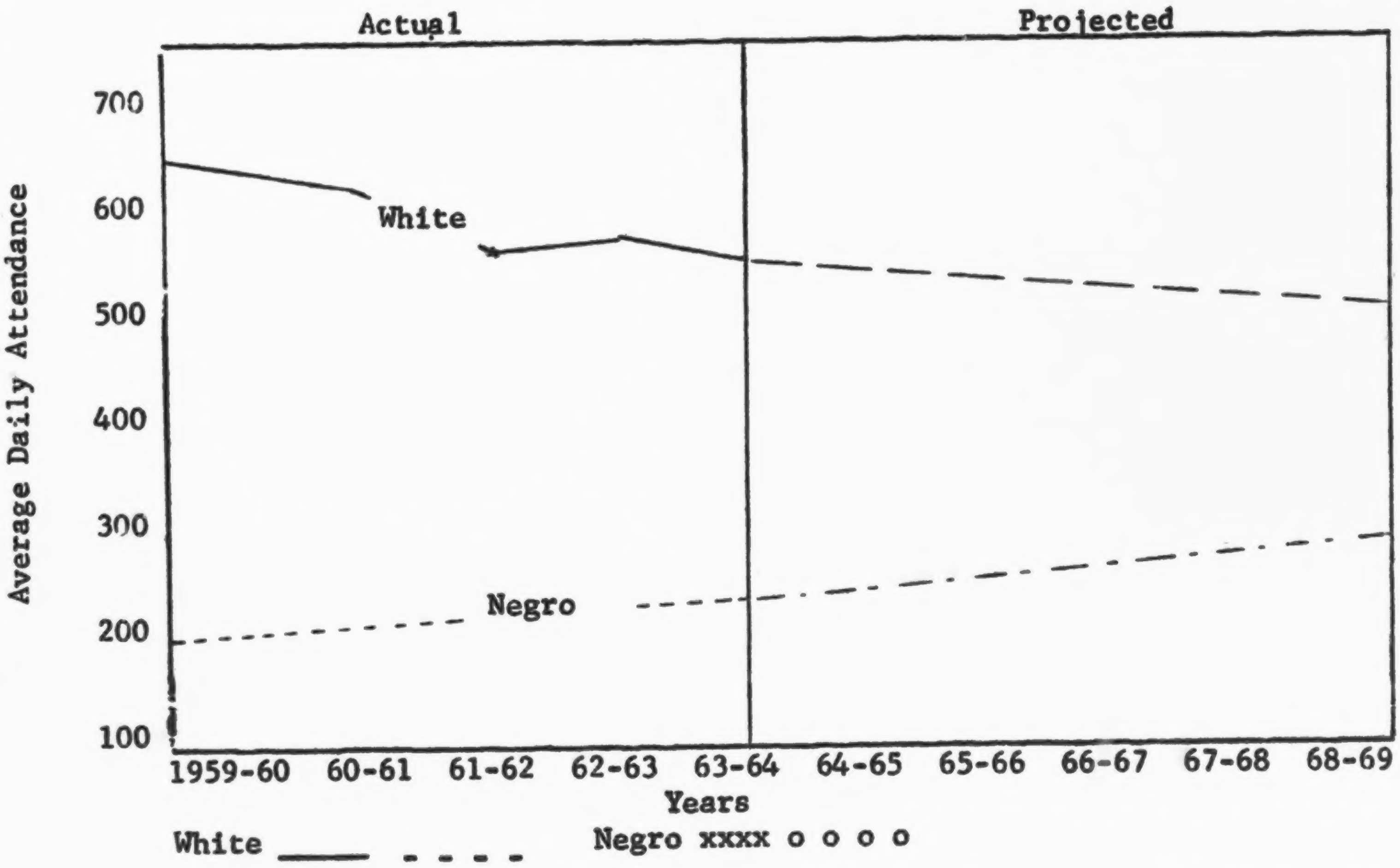
SCHOLASTIC CENSUS BY AGE: HULL-DAISETTA INDEPENDENT SCHOOL DISTRICT
(WHITE AND NEGRO)
1954-55 to 1963-64

AGE	1954-55		1955-56		1956-57		1957-58		1958-59		1959-60		1960-61		1961-62		1962-63		1963-64	
	W	N	W	N	W	N	W	N	W	N	W	N	W	N	W	N	W	N	W	N
6	63	19	65	12	59	15	78	16	48	18	71	14	50	21	59	24	53	19	52	14
7	89	18	72	21	71	13	59	15	78	19	60	23	73	14	56	19	58	26	57	17
8	55	12	91	16	68	21	74	12	58	17	72	17	50	17	71	14	49	19	59	19
9	78	11	61	13	95	16	69	19	65	13	63	16	73	16	49	22	69	14	47	21
10	59	18	83	12	55	13	85	16	71	19	66	9	65	15	70	16	51	17	69	13
11	78	20	65	16	79	11	54	10	81	15	61	18	63	11	67	15	72	18	53	18
12	55	14	69	20	65	17	86	10	55	11	79	19	60	17	59	13	66	17	64	16
13	50	13	60	15	69	22	65	18	83	9	51	9	82	17	64	18	55	12	66	13
14	55	14	47	13	51	17	70	19	68	15	85	9	50	11	71	18	68	17	60	13
15	50	13	50	16	50	16	46	12	64	20	61	16	80	9	53	9	68	18	67	18
16	55	8	56	13	56	15	48	14	48	13	62	16	65	14	77	8	44	9	67	17
17	47	14	57	6	49	11	56	13	47	14	44	11	56	18	54	15	71	8	43	10
TOTALS	735	174	776	173	768	187	790	174	766	183	775	177	767	162	750	191	724	194	704	189

Source: Summary of Scholastic Census (Fin-033) for years shown.

attendance. The Negro student census and average daily attendance has shown a small increase over a ten-year period. The comparison between white students, as listed on the census and as reported in average daily attendance indicates a drop-out problem of considerable magnitude. Effort should be expended to keep these children in school. Approximately twenty-five per cent of the upper four grades are not in school.

TRENDS IN AVERAGE DAILY ATTENDANCE PROJECTED
FOR FIVE YEARS



The average loss in white average daily attendance over the past five years has been 16 per year. If this trend continues, the per pupil unit cost will continue to climb and it will be increasingly difficult to justify curriculum offerings. Such prospects dictate that special attention be given to modifications in instructional staffing which would make possible programed materials, team teaching, large and small group instruction, and engaging non-professional school aides to relieve teachers of non-teaching duties.

TABLE VII

AVERAGE DAILY ATTENDANCE BY GRADES: HULL-DAISETTA INDEPENDENT SCHOOL DISTRICT
(WHITE AND NEGRO)
1954-55 to 1963-64

GRADE LEVELS	1954-55		1955-56		1956-57		1957-58		1958-59		1959-60		1960-61		1961-62		1962-63		1963-64	
	W	N	W	N	W	N	W	N	W	N	W	N	W	N	W	N	W	N	W	N
1	68	18	72	11	58	16	54	19	53	20	53	24	44	26	51	28	56	23	52	15
2	83	15	65	20	73	13	59	15	56	20	52	18	54	19	43	22	48	32	52	22
3	55	15	80	16	68	20	70	14	62	14	59	22	51	17	54	16	41	19	49	28
4	77	4	47	15	81	16	66	21	66	15	63	15	64	24	49	16	50	14	40	18
5	59	11	73	4	44	16	78	15	63	20	63	16	64	14	68	26	58	15	47	18
6	58	27	57	19	78	6	42	16	73	16	61	21	60	18	65	13	62	26	55	17
7	56	19	64	24	56	17	73	7	40	15	65	15	60	22	57	19	63	9	80	19
8	41	19	43	24	61	28	54	15	70	8	36	16	60	16	58	22	58	23	57	15
9	36	12	41	16	37	17	60	26	48	14	60	8	33	15	39	15	53	30	33	28
10	39	10	29	10	38	13	34	16	51	24	43	10	50	9	30	14	37	13	48	23
11	37	7	35	9	26	8	36	12	30	15	46	23	38	8	41	10	23	12	30	11
12	24	4	29	7	34	8	24	7	34	10	27	14	38	21	33	6	41	7	25	12
TOTALS	633	161	635	175	654	162	650	183	646	191	628	202	616	209	588	207	590	223	568	226

Source: Superintendent's Annual Report

The annual gain in Negro average daily attendance over the past five years has been 7 per year. This increase is not sufficiently large to be a significant trend but could add a professional unit each four years.

Curriculum Implications

The general organizational pattern for both white and Negro schools follows the traditional 6-6 program. The white pupils spend six years in the Hull Elementary School and six years in the Junior-Senior High School in Daisetta. The Negro children spend twelve years in the same school but grade separation is achieved by utilization of separate building wings.

The elementary school programs have been traditional self-contained classrooms in both Hull and Woodson Elementary schools. An experimental, ungraded primary program has been initiated at Hull Elementary, however, and it is anticipated that the reorganization will progress one grade per year. Both schools have special music teachers and part-time librarians. In view of the achievement needs in the schools, a kindergarten program should be carefully considered. A strong pre-primary experience might be a step toward upgrading the level of achievement in the early grades. More extensive use should be made of audio-visual materials and equipment. A well-equipped teachers' workroom might facilitate this. Both the librarian and the principal should provide the leadership for applications and development of modern supplies and equipment. Woodson Elementary School might also benefit from a strong ungraded primary program.

The secondary school programs at both Hull-Daisetta and Woodson High are affected by the problems of small enrollment discussed in Part II. A basic college preparatory curriculum now provides the core of the high school program with electives made available in business, industrial arts (Hull-

TABLE VIII

SCHEDULE AND ENROLLMENT 1963-64: HULL DAISETTA HIGH SCHOOL (WHITE)
HULL-DAISETTA INDEPENDENT SCHOOL DISTRICT

1st Per.	Class Size	2nd Per.	Class Size	3rd Per.	Class Size	4th Per.	Class Size	5th Per.	Class Size	6th Per.	Class Size
Eng. III	15	Conf.	--	Eng. III	14	Eng. I	16	Speech	18	Eng. I	16
7th Band	--	Jr. Hi.	--	Band	45	Chorus	16	Conf.	--	Jr. Hi.	--
Conf.	--	Jr. Hi.	--	Spanish	3	Jr. Hi.	--	Jr. Hi.	--	Jr. Hi.	--
Cons. Math.	25	Elg. I	20	Jr. Hi.	--	Jr. Hi.	--	Alg. I	20	Conf.	--
Conf.	--	Jr. Hi.	--	Jr. Hi.	--	Jr. Hi.	--	Jr. Hi.	--	Jr. Hi.	--
Full-Time Librarian -- 6 Periods										Library	--
Shop I	23	Conf.	--	Girls shop	9	Shop II	10	Mech. Draw	11	Shop III	13
World His.	19	Civics	58	Conf.	--	Jr. Hi.	--	Jr. Hi.	--	Jr. Hi.	--
Typing I	18	Typing I	19	Typing I	19	Typing II	8	Conf.	--	Shorthand	16
Conf.	--	Health	46	Jr. Hi.	--	P. E.	40	Athletics	26	P.E.	20
Alg. II	12	Rel. Math.	20	Rel. Math.	23	Geometry	22	Off. P.	--	Conf.	--
Jr. Hi.	--	Jr. Bus. Tr.	24	Jr. Hi.	--	Conf.	--	Jr. Hi.	--	Jr. Hi.	--
Jr. Hi.	--	Conf.	--	Biology	18	Gen. Sci.	16	Biology	18	Biology	18
Conf.	--	Jr. Hi.	--	Jr. Hi.	--	Jr. Hi.	--	Jr. Hi.	--	Gen. Sci.	16
Special Education											
Eng. II	24	Jr. Hi.	--	Conf.	--	Eng. IV	13	Eng. IV.	14	Eng. II	24
Jr. Hi.	--	Conf.	--	Chemistry	8	Counselor	--	Counselor	--	Jr. Hi.	--
Jr. Hi.	--	Health	34	Conf.	--	P. E.	34	P. E.	36	Athletics	30
Home M. I	11	Conf.	--	H.E. II - III	12	Home & Family	11	Home M. I	12	Visitation	--

Daisetta), vocational agriculture (Woodson), instrumental music, and Spanish (Hull-Daisetta). When compared with urban high schools, against whose graduates the Hull-Daisetta graduates must compete for college entrance, the curriculum is limited. The curriculum could well be broadened with programed materials for which a special study center should be included in the new building plans. Table VIII provides an insight into the present curriculum offering and class size of Hull-Daisetta High School (1963-64).

Woodson High School has even more critical problems regarding efficient operation than does Hull-Daisetta. In 1963-64 there were thirteen classes being conducted with less than fifteen students each. At some periods of the day the student faculty ratio was as low as 18:1. Several classes were carried on with less than ten students in order to support a minimum curriculum. The curriculum and class-size problems of Woodson High School are demonstrated in Table IX. The district conducts a well-developed testing program. Guidance and counseling services are available to all campuses. Tests of four classifications are given: (1) ability, (2) achievement, (3) interest, and (4) aptitude. The types of tests and the grade levels at which they are administered are listed in Table X. Special attention needs to be given to the results of these tests, and program innovations should be carefully studied in light of each student's progress and employment plans.

Staffing

The school district has a good staffing ratio. At present it employs eight additional classroom teachers above the minimum foundation program allocation of professional units. The small class size permitted by such staffing should give each instructor an opportunity for creative teaching. On the other hand, if class size becomes too small the incentive for good teach-

TABLE IX

SCHEDULE AND ENROLLMENT 1963-64: WOODSON HIGH SCHOOL (NEGRO)
HULL-DAISETTA INDEPENDENT SCHOOL DISTRICT

8:30 9:00	9:03 9:58	Class Size	10:01 10:56	Class Size	10:59 11:54	Class Size	11:54 12:20	12:25 1:30	Class Size	1:23 2:18	Class Size	2:21 3:16	Class Size
A.P.*	Gen.Sci.	27	Bio.	6	Amer.Gov.	22	Noon	Biology	28	Typing	12	P. E.(alt)	34
A.P.	Eng. IV	12	Eng. I	25	Eng. II	28	Noon	Eng. III	16	Tex.Hist.	32	Physics	4
A.P.	Alg. I	23	W.Hist.	4	Gen.Math	26	Noon	Rel.Math & Trig.	12	Occ.Guid. Plane Geo.	32 14	Music	52
A.P.	H.Mak.III	8	H.Mak.II	10	Conf.	--	Noon	H.Mak I	14	H. Mak I	14	P. E.(alt.)	34
A.P.	V.Ag.III	6	V. Ag.II	15	Conf.	--	Noon	V.Ag.I	10	V.Ag.I	10		

* Activity Period

ing may be absent and some types of class activity hindered. The Hull-Daisetta participation in the Small Schools Project and Lamar Area School Study Council has a stimulating effect.

TABLE X

TESTING PROGRAM: HULL-DAISETTA INDEPENDENT SCHOOL DISTRICT

GRADE	ABILITY	ACHIEVEMENT	INTEREST	APTITUDE
1	Primary Mental Abilities - Sept.	SRA Achievement Series - May		
2		SRA Achievement Series - Oct.		
3	Primary Mental Abilities - Sept.	SRA Achievement Series - Oct.		
4		SRA Achievement Series - Oct.		
5	Primary Mental Abilities - Sept.	SRA Achievement Series - Oct.		
6		SRA Achievement Series - Oct.		
7	SRA Test of Educational Ability - Fall	SRA Achievement Series - Fall		
8				
9	SRA Test of Educational Ability - Fall	SRA Achievement Battery - Fall	Kuder Preference Test	
10				Flannigan Aptitude Test
11		Iowa Test of Educational Development - Fall		
12				

The credentials and experience of a school district faculty are one means of evaluating the potential of its educational program. A second and frequently used measure is the staffing ratio per thousand students. The survey consultants have chosen to utilize both of these methods though the second must be projected because of the limited enrollment.

TABLE XI

CREDENTIALS AND EXPERIENCE OF HULL-DAISETTA INDEPENDENT SCHOOL DISTRICT FACULTY

	Total	Sex		Degree		Graduate Study	Experience In Years		
		M	F	Bachelors	Masters		1-5	6-10	11-
White	31	12	19	31	12	9	12	3	16
Negro	12	4	8	12	6		4	3	5
Administration*	3	3		3	3			2	1
Totals	46	19	27	46	21	9	16	8	22

*Does not include central office administrators.

The school district employs 46 professional persons outside of the central office (Table XI). All the instructors possess at least the bachelor's degree with 21 having the master's degree. Nine others have done graduate study beyond their last degree. These figures indicate the teaching faculty has an outstanding awareness of the need for further professional development. All of the administrators possess both the bachelor's and master's degree. The principal weaknesses seem to lie in three areas: (1) assignment to a field other than the major, (2) relatively large number of beginning teachers, and (3) relatively large number of teachers who have been teaching more than twenty-five years.

Though most small schools are faced with the problem of flexible assignments, it would strengthen the program considerably to keep teaching assignments within major or minor fields, having as few disciplines as possible represented within a single assignment. Beginning teachers are especially prevalent in the sciences. This is perhaps a reflection of the problem of supply and demand. Some concern should be given to the large number of individuals who have long tenure. They should be encouraged to continue professional growth or they are likely to constitute a drag upon school improvement.

The high school is especially well-staffed for a small school with moderate expenditure. Projected to an enrollment of 1,000 pupils the staffing ratio of the school system would be 58. This is considered by most authorities to be an adequate staffing ratio even though the small school problems mentioned above are in evidence.

Financial Considerations

School district finance is usually analyzed in terms of ability and effort. One of the best measures of ability is the assessed valuation of taxable property which stands behind each student in average daily attendance. In 1963-64 the Hull-Daisetta Independent School District has $32,600 of assessed valuation. In Table XII the tax rates and assessed valuations of the school district are stated for the past ten years. Significant variations occurred in the period making projection of trends impossible. It may be observed, however, that a significant growth of local resources has occurred over the past ten years.

TABLE XII

TAX RATES AND TOTAL ASSESSED VALUATION: 1954-64 HULL-DAISETTA INDEPENDENT SCHOOL DISTRICT

Year	Total Assessed Valuation For School Purposes
1954-55	$ 20,000,000.00
1955-56	22,000,000.00
1956-57	21,000,000.00
1957-58	22,181,211.00
1958-59	20,552,044.00
1959-60	21,488,018.00
1960-61	20,040,644.00
1961-62	18,929,962.00
1962-63	23,695,582.00
1963-64	25,900,000.00

Effort is often described as current expenditure per student in average daily attendance. Also it is indicated by the bonded indebtedness per student in average daily attendance. Both statistics reflect the local district's willingness to support a local educational program to provide administrative and teaching staffs and to furnish adequate school housing and facilities. Actual expenditures by budget areas, as required for accounting purposes by the Texas Education Agency, are shown in Table XIII for the past three years. The current expense per student in average daily attendance for each of these three years was (1961-62) $461, (1962-63) $472, (1963-64) $471, all of which are above the state average expenditure.

As of August 31, 1964, Hull-Daisetta Independent School District had $387,000 in outstanding bonded indebtedness. This will require in 1964-65 a payment of $67,000 toward retirement of the principal and $10,030.00 in interest. This figure has been significantly increased by the estimated

TABLE XIII

EXPEDNTIURE BY BUDGET CLASSIFICATION 1961-62 to 1963-64 HULL-DAISETTA INDEPENDENT SCHOOL DISTRICT

Classification	Year 1961-62	 1962-63	 1963-64
Administration	$ 35,148.20	$ 34,751.52	$ 40,750.46
Instruction	266,069.40	271,150.26	277,733.22
Attendance Services	2,320.08	2,320.00	-0-
Health Services	1,335.45	1,356.26	1,354.35
Pupil Transportation	8,480.40	8,799.77	8,563.22
Operation of Plant	33,139.05	37,333.90	34,176.20
Maintenance of Plant	14,592.68	23,933.09	15,484.69
Fixed Charges	5,445.34	5,419.49	5,721.36
Total for Computing Per Pupil Cost	$366,530.60	$385,064.29	$383,783.50
Food Service	9,721.86	5,032.86	6,786.73
Student Activities	5,554.67	1,656.11	3,240.76
Community Services	-0-	-0-	-0-
Total Current Operating Cost	$381,807.13	$391,753.26	$393,810.99
Capital Outlay	8,829.86	15,555.05	13,941.49
Debt Service	76,559.03	76,411.59	92,467.86
Total Expenditures	$467,196.02	$483,719.90	$500,220.34

funded debt requirements (Table XIV) for the $1,000,000 bond issue for the present program of building and renovation. The bond tax to service the indebtedness will approximately double since the indebtedness has increased from $487 per student to $1,746 per student.

TABLE XIV

ESTIMATED PROPOSED FUNDED DEBT REQUIREMENTS
HULL-DAISETTA INDEPENDENT SCHOOL DISTRICT

Maturity Date	Principal	Interest	Total Requirements
1965	$ 30,000	$ 49,975	$ 79,975
1966	30,000	49,225	79,225
1967	30,000	48,475	78,475
1968	30,000	47,725	77,725
1969	30,000	46,975	76,975
1970	30,000	46,225	76,225
1971	30,000	45,475	75,475
1972	35,000	44,725	79,725
1973	35,000	43,850	78,850
1974	35,000	42,887	77,887
1975	35,000	41,925	76,925
1976	35,000	40,962	75,962
1977	40,000	40,000	80,000
1978	40,000	38,400	78,400
1979	40,000	36,800	76,800
1980	45,000	35,200	80,200
1981	45,000	33,400	78,400
1982	45,000	31,600	76,600
1983	50,000	29,800	79,800
1984	50,000	27,800	77,800
1985	55,000	25,800	80,800
1986	55,000	23,600	78,600
1987	60,000	21,400	81,400
1988	60,000	19,000	79,000
1989	65,000	16,600	81,600
1990	65,000	14,000	79,000
1991	65,000	11,400	76,400
1992	70,000	8,800	78,800
1993	75,000	6,000	81,000
1994	75,000	3,000	78,000

Tentative cost estimates for the capital improvement program are as follows:

New Elementary at Hull	$ 302,273
New High School at Daisetta	372,620
New Football Field, Track, etc.	130,900
Woodson School	91,510
Architects and Engineers	53,838
Equipment and Fixtures, 10%	76,640
Continguency, 5%	51,389
Bond Expense	10,900
Total	$1,090,070

Part II

EDUCATIONAL SPECIFICATIONS FOR HULL-DAISETTA HIGH SCHOOL

In Part II of the report, a wide scope of educational functions and activities are translated into specific building requirements. The specifications range from class sizes and room functions to pupil traffic and instructional equipment. In general, an outline form has been used to ensure an adequate check-list covering all educational aspects of the respective areas of the new facility.

Wherever special significance is attached to a certain feature of the new facility, the educational specifications are exact and definitive. With other items of relatively less educational significance such as standard desks, chairs, and tables, the listing is made in simple outline form. In this and other ways the architect is encouraged to develop his own desirable solution.

The proper use of Part II is as a basis for conference with the architect, page by page. During these conferences the outline should be developed and amended, with notations made on the manuscript. Later Part II, as performance goals adopted by the school board, should be checked against the architect's plans and specifications for compliance and completeness.

The educational specifications consist of the following sections: (1) Small high school characteristics - an overview of the function of the small high school; (2) Educational materials center - the logical focus of the academic unit to be planned; (3) General standards - including the definition of a standard classroom; (4) Requirements of academic departments - language arts, social studies, science-mathematics, fine arts, and business education; (5) Summary of space requirements in the new facility - for instructional purposes; (6) Administrative offices and services - space needs; and (7) Renovated special areas - notes on improvement of the existing buildings on the campus that will be continued in use.

SMALL HIGH SCHOOL CHARACTERISTICS

The idealized modern high school is usually a large high school of one to two thousand or more enrollment. High schools of this size are generally located in cities or the suburbs of cities or populous county unit systems. They have multiple curriculum offerings to suit the needs and interests of all types of youth. Their faculty is staffed with subject specialists who can teach the more advanced content. Provision is made for the gifted and the handicapped. Laboratory equipment for all branches is extensive and modern. These large high schools generally achieve scholastic prominence. They offer many services from guidance counselling to varied student activities and projects.

As explained in Part I, the Hull-Daisetta High School will probably remain a small high school. It will have only 150 or so students in grades nine through twelve plus another 140 in grades seven and eight. However, a small high school is believed to have some unique advantages if the school district will avail itself of its educational opportunities. Unfortunately, due to little interest or leadership, numerous small high schools in rural areas across the state have been allowed in recent years to go backwards both in physical facilities and educational imagination. This section of the report will endeavor to show how a small high school can so capitalize upon its unique characteristics as to compete with the advantages of larger high schools. The unique characteristics of the small high school can be readily translated into building plans.

Small Groups and Individuals

The small high school should be designed to serve small groups and individuals. Given the equipment, incentive, and opportunity, these small groups can reach their destination as speedily as the large city classes do in specialized classrooms.

In building planning, this calls for a diversity of equipment. It requires work areas and storage spaces. How can the advantages of a modern curriculum be brought to small groups? There are available a variety of new devices already mentioned in Part I: educational television, audio-visual equipment, programed instructional materials, more consistent use of a library materials center which houses the modern-day explosion of knowledge. There will be some large size classes, too; but the proportion of smaller group and individualized instruction is higher in the small high school.

Programed learning materials already have received widespread use in industrial employee training. For the public school program they offer a unique opportunity for individuals and small groups to achieve an even-front, ready for the next educational step--almost an essential, if we are to guide and instruct small group learning. Programed materials also fit into remedial and unit instruction. It may be expected that the number and quality of available "programs" will increase. The "educational materials center" (expanded library) described below in this chapter should include special facilities for supervising students working on these programs. One instructor in a programed materials laboratory might supervise twelve to fifteen students following the same or different instructional programs.

It is recommended that each department outlined below in this chapter have an office space. This is good practice in the larger high schools too.

But in the smaller schools these office areas will supply the necessary small group conference-type spaces required for individualized instruction.

Human Relations

In the small high school everyone can't help knowing everyone else, but this actually affords a unique opportunity for personal relationships, teaching valuable lessons possibly lost in a larger, impersonal high school building.

The building plans should contain work areas for student activities - drama, publications, student council, athletics, science and practical arts projects - the laboratory extension, in fact, of every branch of the curriculum. These work areas will be noted in the functional diagrams following in this chapter.

Aesthetics has been an often neglected aspect of education. The small rural high school can exemplify a rich form of art, of style, of color, of texture, of interest. This is for the architect to keep in mind. It is not necessarily a costly addition to the building project. In planning areas for human relationships, the aesthetic effect of the spaces should always be accented.

Classroom teachers are the most valuable asset of any public school. The building plans should provide for convenient working conditions of teachers. Acoustics should minimize distractions in the teaching-learning situation. We recommend a teachers' lounge and separate rest rooms for men teachers and for women teachers.

Versatile Staffing

The teacher in the small high school must be competent in several fields and enjoy working with students as they explore together new fields of knowledge.

The teacher in the small high school has versatility rather than subject matter specialization, can use resources other than the teacher's memory, and can use communication other than the teacher's voice.

Given a carefully selected faculty, for whom the architect must plan the teaching stations, there are other modern means to enrich instruction. As a National Education Association research study of small high schools in 1960-61 stated: "The classroom teachers in small high schools need all the teaching time they can get, but much of their time is spent in related chores such as taking and reporting attendance; collecting funds; keeping records; transferring grades to the permanent record cards; typing letters to parents and administrators; typing stencils; operating duplicating machines; monitoring the school corridors, cafeterias, study halls, and playgrounds; preparing audio-visual materials; clipping, mounting and filing instructional materials; and doing many other duties that can be done by school aides."

The recent Ford Foundation study to improve scholarship in small high schools recommended employment of "school aides" -- competent individuals with less than a professional teaching certificate. Such aides could be fully assigned on a ratio of possibly one aide for every four licensed teachers. A suggestion of the survey staff for Hull-Daisetta district is employment of such aides as assistants to the head librarian - thus specializing one in audio-visual materials, one in programed instructional materials, and so on. The building plans would need to provide work areas for such school aides. (An interesting alternative type of service would be to invite "internes" from nearby teacher training colleges; such internes would have more training than school aides but on the other hand would be less permanent and so have less continuity in their service.)

Multipurpose and Related Spaces

The small high school has the same small body of pupils using its space for a wide variety of purposes. Hence, if the building were planned as a series of specialized rooms each space would be vacant much of the time. The problem then is whether to build large or small rooms - the answer, of course, being both. Larger classrooms, of 900 sq. ft. overall, generally receive greater utilization over a period of time because more different teaching methods can be practiced in the larger space, a variety of sized groups can be housed there, more space is available for equipment and storage, and no one can predict the curriculum or class size of the future.

With movable furniture and free-standing storage cabinets, such classrooms could in the course of time be converted to a variety of programs. The requisites are adequate uniform lighting, good acoustics, ample utility outlets, and air conditioning (refer to description of a "standard classroom" below). A room used for multiplepurposes during the school year has to contain the extra equipment and additional storage needed for each purpose. For example, such rooms should be readily usable for lectures, for audio-visual aids, and for small group projects with convenient access to books, equipment, and supplies. Space division should be possible.

Interchangeable rooms of related curriculum branches should be located adjoining or in proximity groupings. Among possible related groups from the standpoint of multipurpose rooms are social studies and business, language arts and library, art and science, mathematics and academic subjects. The academic work of the high school should center as much as possible about the library, although classrooms should have shelving for their own book collections as well.

Flexible Scheduling

The building plan must accomodate different curricula and schedules over a period of years. While the self-contained classroom and one-hour scheduled period is the current pattern of organization, the future may require a variety of other scheduling patterns: some subjects such as general science could be taught in ten-week units, small groups may be informally assigned for programed learning, or for educational television, or for language laboratory, or for advanced work projects, or testing and guidance.

At least four classrooms ought to be interchangeable for the large and small group instruction arrangements of team teaching. The constants or required courses of the high school curriculum can often be taught at a higher level of achievement if two or more teachers combine their skills.

Shared personnel and cooperative services may develop in the future according to recent trends. Generally these additional services are county unit cooperative services. Among the possibilities for cooperative services are health and psychological services, specialized vocational units, classes for the handicapped, and special opportunities for the gifted. Other possible cooperative services are audio-visual materials, circulating library, electronic computor applications, educational television, instructional supervision, and testing-guidance programs.

Provision of technical-vocational courses in rural areas is especially difficult; but for Liberty County it appears that a county community junior college and an area vocational school are the logical answer (refer to Part I). The Hull-Daisetta building plans should allow for these possible future trends. Spaces should be reserved for a health clinic, a guidance and small group testing service (adjoining the library), and possibly a conference room that could be shared by part-time instructional supervisors or specialists.

Integral Part of Community

The small school in both its structure and its daily operation is part of the community's life. The local community is invited into the school in many ways. For example, the public attends spectator events in the school auditorium, gymnasium, and athletics field; they make frequent community use of facilities such as the cafeteria and auditorium; and they visit the administrative offices and special rooms. The school is the cultural center of the community. The academic program should have equal prominence.

Thus the high school should invite the public into an ample foyer, which also can serve as a student commons. From this foyer the school library can be showcased. The various administrative offices, the information of the school patrons, the accessibility of special instructional facilities, an adult atmosphere for private conferences on school business -- these and other services should be evident in the main foyer plan of the small high school. Possibly an "open" plan would achieve the result, with an information secretary's (or responsible student's) desk in an administration area of the open foyer. The orientation of the high school entrance would determine the details of the foyer.

The Hull-Daisetta campus is in a small rural community but it should have a plan of orderliness. School bus traffic should be off the highway but not encircling the building or crossing student traffic as at present. Public and faculty parking should be orderly and well-located with reference to the buildings (whether or not the parking area is paved). The landscaping and lawns should clearly divide spaces without ugly fences. The present conglomerate of buildings should acquire depth of focus as approached from the highway.

A feature specified for the Hull-Daisetta High School is air conditioning. This should enable planning for such building dimensions that many classroom walls are non-weight-bearing and "expendable" in the event that partitions have to be altered in future years. Various departments such as science, library, and classroom sections should be shown on the plot plan as expansible in case enrollments should grow and new additions (probably at the rear) be required. Air conditioning will result in increased utilization of the school plant. It may result in summer school activities and more adult programs.

The small high school community as well as the large has its problems: the problem of high-school drop-outs, how to provide the technical-vocational courses so badly needed, the cultural disadvantages, the provisions needed for handicapped, the newly developing special pupil services and instructional practices, and the ever-expanding curriculum. While not all of these problems can be anticipated and provided for at once, a well-planned small high school will be based not only on the curriculum content but on the teaching-learning psychology and human elements - the student and faculty and public - who will be the occupants and users of the school plant.

INSTRUCTIONAL MATERIALS CENTER

The conventional school library, about which the modern instructional materials center concept is designed, has its traditional values. Descended from the open public library with a book and reference collection and a general reading room, the conventional school library maintains an index system for locating and arranging books, appropriate storage for all types of materials from periodicals and vertical files to atlases and encyclopedias, and a circulation desk for loan of materials. Traditionally the school library is managed by a head librarian. The conventional furnishings are reading tables and chairs crowded together for maximum seating. The library reading room is open to the students.

While this conventional type of school library has many traditional practices to contribute, there have been evidences of its failure to serve modern instructional needs. The head librarian has not adapted to curriculum and instructional work. The administration has not scheduled much time for student use of the library. There has been little motivation to use the library after school hours. The book and reference collection in the library has not kept pace with the explosion of knowledge. The books are not available when needed in the classrooms. The teachers have fallen into the habit of relying almost entirely on state-supplied textbooks (and sometimes their own private reference collections). The school library has been relatively unproductive of teaching materials.

An instructional materials center, including the school library, should be the academic heart of the modern high school. This should be true both in its operation, and in its physical space, location, and furnishings.

Since the Hull-Daisetta plan concerns a cluster of academic areas and activities in a small enrollment situation, it is not necessary to create "resource center libraries" decentralized to the several academic departments, as is a trend in modern large high school designs; but a more economical and effective solution would be to plan a central instructional materials facility serving the requirements of all related academic departments. Such an instructional materials center would be flexible to grow with the increase of books and expansion of knowledge, to furnish learning aids needed for enrichment of the curriculum, and to accomodate the development and supervision of scheduled learning systems as they increase in importance.

Organization of Instructional Materials Center

First, concerning organization of the center, a head librarian should be in charge of the center and also have general direction of all libraries in the school district. Each departmental classroom of the high school is entitled to have its own book shelving and book collection (approximately 400 volumes) even though these often-used books are duplicated in the library. This amount of duplication is no loss and but a relatively minor expense in the budget, although rich in its results. The head librarian should supervise and account for these departmental room collections, as well as the audio-visual materials, programed learning materials, and materials-production activities discussed below.

The instructional materials center itself will contain the school library program and also have (1) an audio-visual center, (2) an instructional materials production center, (3) a programed materials laboratory, and (4) a professional library and curriculum work-room. Provision should be made so that one or two class groups could work in the library reading room at a time, while not interfering with normal and occasional use of the library by other persons - a solution involving partial space separations. The center will provide work stations for approximately four school aides.

Space Requirements of the Instructional Materials Center

Second, concerning the physical layout of the center, the following work areas should be planned:

(1) The library reading and reference room should have shelving for a basic book collection of 8,000 volumes.[1] However, the arrangement

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[1] American Library Association, Standards for School Library Programs, 1960.

should anticipate 2X expansion of this basic collection and floor space shown for up to 1,500 linear feet of book shelving that may be added as required.

(2) Seating should be provided in the library for 50 pupils. Of this approximately 25 should be around reading tables and 25 of comfortable upholstered chairs arranged in informal groupings.

(3) The reading room should have a separation feature in its layout and furnishing so that a class of approximately 25 pupils with teacher could work undisturbed in an area of the library while other parts of the library are occupied by various other reading groups.

(4) Space should be shown in the plans for specialized furniture:

- Card catalog
- Magazine and newspaper racks
- Bulletin boards
- Legal size files
- Telephone
- Book trucks
- Atlas and dictionary stands
- Display cases
- Book shelving (free-standing)
- Main desk (near center of room)
- Photo-copy duplicator (public use)
- Typewriters, 5 - one for librarian and 4 for school aides

(5) Carpeted floor (also plan for easy circulation of trucks)

(6) General illumination located for flexible arrangements (high level illumination)

(7) Ventilation located for flexible arrangements (60-person) load in the reading room)

(8) Head librarian's office and workroom (serving also for instructional materials production - see below):

- Desk
- Counter and running hot and cold water
- Typewriter, typist's chair and table
- Work table (large)
- Storage steel file cabinets
- Electrical outlets
- Storage built-in for
    - Reading material not in current use, (linear feet)
    - Back copies of magazines, (linear feet)
    - Poster and map storage (to be specified)
    - Automated devices
- Outside loading door is desirable
- Various duplicating equipment

(9) Audio-visual center should be a separate room with access to corridor. It should contain the following:

- Desk
- Counter and hot and cold running water
- Electric outlets
- Work table and chairs
- Space for trucks
- Apparatus storage bins (built-in)
- Storage shelves for
    - Films

Maps, charts, globes, and objects
Vertical files of flat pictures and films
Recordings

- Floor space for temporary and permanent storage of equipment and stands
- Film reviewing screen
- Typewriter, chair and table

(10) Professional library and curriculum workroom can be combined as a medium-size conference room related to the library (250 square feet). Its features should include the following:

- Access to corridor
- Shelving (linear feet for professional library books and bulletins)
- Vertical files (   )
- Bulletin boards
- Display racks (   )
- One or two large conference tables to seat 12 persons
- Two work tables or desks with chairs
- Entrance to adjoining area such as the librarian's office and workroom that has available:
  Counter and hot and cold running water
  Electric outlets for equipment
  Duplicating machines and supply storage
  Layout work table

(11) The programed materials laboratory is essentially a specialized classroom connected with library (approximately 600 square feet.) It requires storage space for various programed materials. Allow

for 25 pupil stations at specialized cubicle tables. Good ventilation and maximum noise-absorbing acoustics are essential. Among the scheduled activities in this room are the following:

- Language laboratory (no built-in features) for 20 pupils (see equipment)
- Teaching machines or programed materials work carrels (25)
- Educational television viewing
- Viewing audio-visual films
- Programed tape recordings
- Access to the above audio-visual room is necessary for special apparatus storage

(12) For further flexibility, one or two of the standard classrooms could have doors opening directly into the library reading room. (Refer to language arts and social studies departments below.)

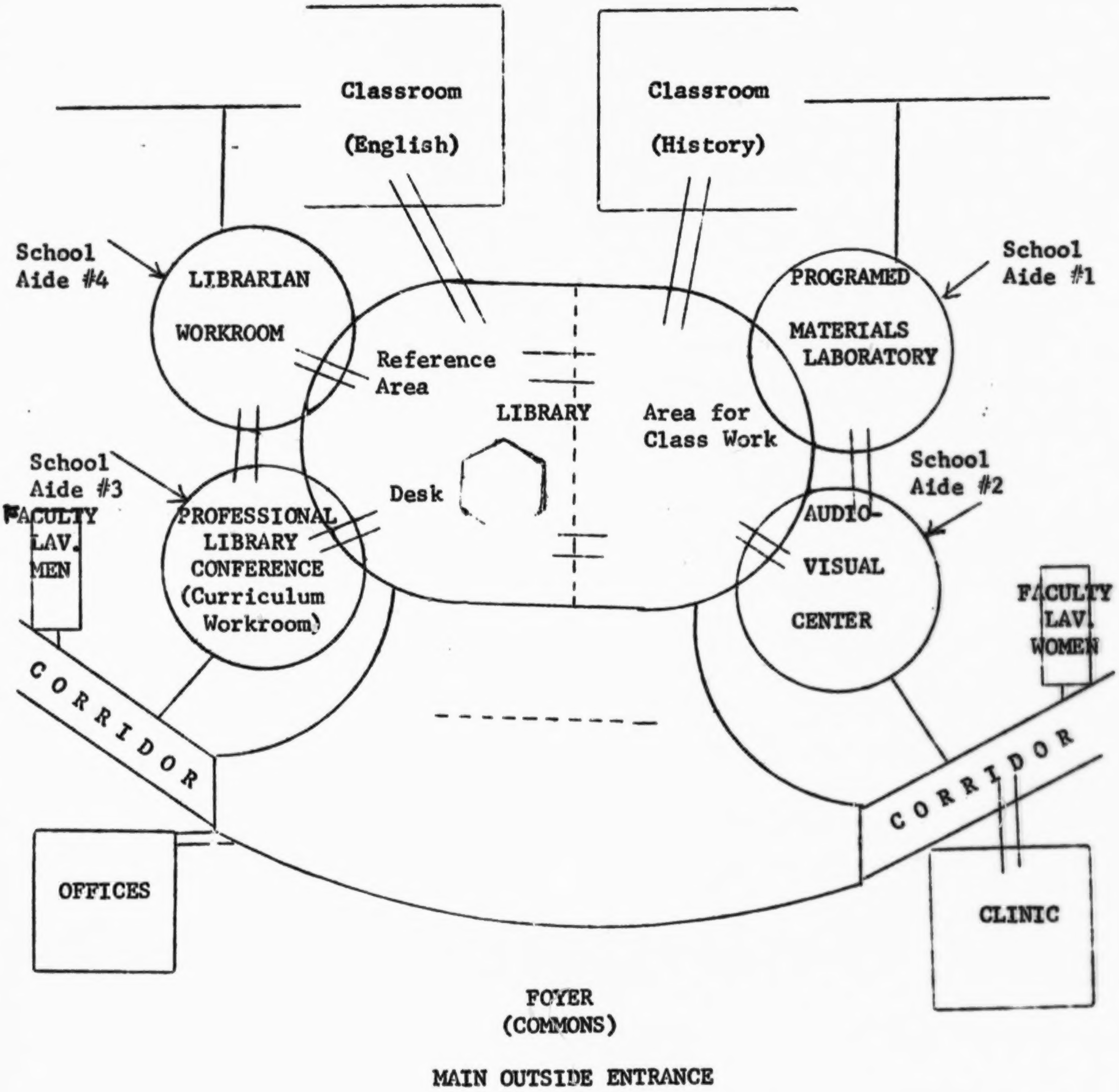
(13) Location on first floor near public entrance

(14) Faculty lavatories adjacent

(15) Work stations for head librarian and four school aides:

- Library office and workroom
- Audio-visual center
- Professional library and curriculum workroom
- Programed materials laboratory

General Area Relationships of the Instructional Materials Center


Classroom
(English)
Classroom
(History)
School Aide #4
LIBRARIAN WORKROOM
PROGRAMED MATERIALS LABORATORY
School Aide #1
Reference Area
LIBRARY
Area for Class Work
Desk
School Aide #3
FACULTY LAV. MEN
PROFESSIONAL LIBRARY CONFERENCE (Curriculum Workroom)
School Aide #2
AUDIO-VISUAL CENTER
FACULTY LAV. WOMEN
CORRIDOR
CORRIDOR
OFFICES
CLINIC
FOYER
(COMMONS)
MAIN OUTSIDE ENTRANCE

GENERAL STANDARDS

In subsequent sections, various specific requirements of the respective academic departments and services will be described in detail. First, several education specifications concerning the high school building in general ought to be noted, particularly with regard to (1) environmental control, (2) the standard classroom concept, and (3) auxiliary areas.

Environmental Control

The new Hull-Daisetta high school building is to be air conditioned. Whatever method is specified, the ventilation and temperature system should be adequate for the peak load of building spaces. A classroom planned for 30 may actually accomodate 40 persons, and the ventilation system needs to have capacity for such excess loads. Few commercial installations are ever called upon to handle cooling and ventilation requirements such as those of schools where there may be one occupant per 12 square feet at times. Also, the architect should be aware of the need for sensitive controls that alternate between heating and cooling in the same half day. Furthermore, classroom loads change frequently from none or one or two persons to 30 or 40 persons as schedules and classes change. Air conditioning needs to be controlled by rooms, and by zones; furthermore, occupants often desire a manual control to supplement the automatic controls. Besides meeting all comfort and health standards, school room air conditioning needs to have silent operation, since freedom from distraction is essential in the teaching-learning situation.

Piecemeal environmental control will never prove satisfactory. This revolutionary approach to design must satisfy total requirements. If we are not to rely on natural illumination we must simulate natural illumination

Actually this is now possible and it probably requires about 140 foot candle lighting which may involve high frequency power supply and modern fixtures. (Note that badly illuminated, windowless schools are more unsatisfactory than having no air conditioning.)

The environment must be interesting and satisfactory to the occupant in a compact school design. This involves color, and texture, and perspective of form and space. It also permits of carpeting, acoustical treatment, and special lighting effects. Circulation should be free and natural. The concerns of safety should never be neglected - windows can occur in natural and pleasant locations without affecting cost-savings of compactness.

Standard Classroom (Definition)

For many instructional purposes the standard high school classroom is specified. In the Hul' Daisetta project the existing plant is to be retained for auditorium, home economics suite, gymnasium, band, industrial arts, and cafeteria. California laws prescribe a minimum of 85 square feet per secondary school student over-all including all related spaces. The Hull-Daisetta campus will need to exceed this amount because of small enrollment ratios.

In a standard high school classroom, 35 square feet per pupil station is recommended: 900 square feet for a 30-pupil classroom. This minimum space standard must cover pupil desks and chairs, aisle spaces, circulating spaces, teacher desk, chalkboard stations, exhibits, storage cabinets, all classroom teaching equipment, a utility table and chairs, space taken by swinging doors, book shelving, access area to storage, building equipment, etc. It is evident that the 30 student desks would occupy less than half the specified area in a standard classroom. Actual dimensions of a standard classroom can vary according to departmental and architectural requirements provided the total space meets the minimum standard.

Following are descriptive features of the standard classroom:

(1) Multiple orientation of rooms is recommended. That is to say, the teacher station does not always remain in the traditional lecture location. The teaching methods from time to time require a teacher to instruct from different quarters of the room. This affects optimum shape, ventilation, illumination pattern, etc. Moreover, these rooms will be scheduled for different curricular subjects from year to year, and period to period in the school day.

(2) Rather than built-in features, this report had recommended free-standing, modular dimensioned, interchangeable storage cabinets. Each room should have book shelving for 400 volumes. Cabinets should be designed for wardrobe, maps, charts, drawing paper, audio-visual apparatus, instructional supplies, student supplies, and filing cabinet.

(3) Each room should have ¼ to ½ of wall space in chalkboard

(4) Each room should have 1/8 of wall space in bulletin board (or other dual use wall aids may be specified).

(5) Seating should be flexible. Some stacking furniture is desirable. Trapezoidal tables can be provided for occasional use.

(6) Teacher desks should be standard, two-pedestal.

(7) Visitor chairs should be comfortable.

(8) Illumination should be uniform and controllable.

(9) Electrical outlets are needed on all sides of classrooms.

(10) Two corridor doors are recommended (optional).

(11) Acoustical treatment is required.

(12) Institutional standard hardware and equipment are requisites.

(13) Bell and clock system should be specified.

(14) Public address or telephone system should be specified.

(15) It is assumed all rooms can be used for audio-visual work or for educational television. (Department may require map holders, visual-aids screens, picture rail, display cabinets, hot and cold running water, etc., to be specified. These features do not alter the basic plan of a standard classroom.)

(16) Electric outlets should be planned for lamps and appliances in all conference rooms, offices, and major storage rooms.

Among the furniture and furnishings to be specified are:

(1) Pupil desks ( ). Sized for junior and senior high school

(2) Pupil chairs ( ). Sized for junior and senior high school

(3) Teacher desk and chair

(4) Occasional tables (trapezoidal)

(5) Visitor chairs ( )

(6) Window shades (Venetian, darkening, or other)

(7) Special tables or stands (to be specified)

Auxiliary Areas and Additional Considerations

In general, the NCSC (National Council on Schoolhouse Construction) standards are to be observed. This applies to lavatories, drinking fountains, exits, safety features, corridors, custodial facilities, etc.[2]

(1) Student lockers for 300 students shall be provided in alcoves off the corridors in convenient locations. (Lockers in corridors are undesirable as the swinging doors take excessive space and delay

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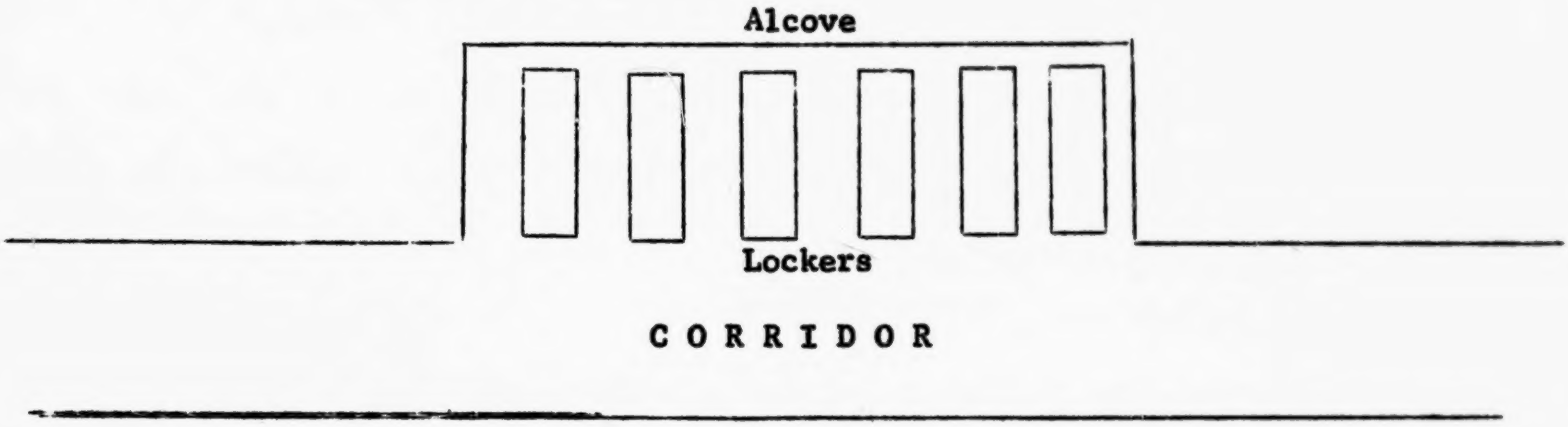
[2] NCSC Guide for Planning School Plants, National Council on Schoolhouse Construction, Michigan State University, East Lansing, Michigan, 1964 Edition.

the traffic flow.) Locker alcoves should be located with a view to faculty supervision such as an alcove for each four standard classrooms.



Detail of locker alcoves

(2) Corridors are to have terrazzo floors. Other floors are to be easily maintained with base boards, molded corners, etc. Corridor wainscote to be easily maintained. (See special provision of carpeting in some rooms.)

(3) Exits are to have exit lights and panic locks on outside doors.

(4) Institutional quality hardware is to be used throughout.

(5) Custodial office and workroom are to be included (see administrative services below).

(6) Custodial closets and sinks shall be provided on each floor.

(7) Fire alarm system and fire extinguishers (to be specified).

(8) Water coolers (as specified)

(9) Grounds are to be planned by architect as to play areas, parking, driveways, drinking fountains, landscaping, walks, and plot plan.

(10) Architect will specify maintenance program.

(11) Minimum of exterior painting is recommended.

(12) Communications system (to be specified).

REQUIREMENTS OF ACADEMIC DEPARTMENTS

The past two decades of school planning have been marked by a strong trend toward departmentalization in the secondary schools. This is especially noticeable in the large high school plans, but it fundamentally influences the small high school plans as well. Several forces cause departmentalization to be a long-term trend of this period. Obviously the first is an emphasis on curriculum modernization and excellence. Several years ago the classical curriculum was accused of being "atomistic", but since then the content has been reorganized to make the main branches of the curriculum more realistic and up-to-date. Thus departmentalization has resulted from a need for better prepared faculty and stronger standards and local traditions in the respective fields of learning.

Departmentalization as an approach to building planning has also grown in favor because of uncertainty in predicting very far in advance the enrollment of a secondary school department or the specific subject load and needs. This has led to the practice of planning each department for possible future expansion with central facilities for the department and possible future addition of more departmental classrooms as required. Other reasons for departmental planning have been the possibility of team teaching, the need for sharing special facilities and equipment in the department, and the multiple-use of adjoining workrooms, conference rooms, storage facilities, and laboratories. It is general practice to provide an office-conference room in each department where teachers may plan lessons cooperatively and small student groups may work. Such office-conference rooms have proven more practical for supervised individual work than study carrels in the library reading room. Since the Hull-Daisetta plan is for a small enrollment, its departmental units could be oriented outward from the central instructional materials (library) facility described above.

The following specific departmental requirements are a blend of particular needs developed by the Hull-Daisetta faculty in a six-month study of their curriculum and program, the long-term requirements submitted by the superintendent of schools and school board, and the analysis of modern small high school facilities prepared by the curriculum consultants and survey director. Probably not all these particulars will be included with equal emphasis in the architectural solution, but the check-list here given is intended for preliminary planning conferences with the architect and as a guide-line for preparation and review of the plans.

The academic departments discussed below are: (I) Language Arts Department; (II) Social Studies Department; (III) Science-Mathematics Department; (IV) Fine Arts Department; (v) Business Education Department. The first three of these departments - Language Arts, Social Studies, and Science Mathematics - are recognized as the main core of the required academic curriculum. Each, however, may offer some elective subjects; and each has its activity and laboratory extensions to be considered. The other two of these departments - Fine Arts and Business Education - fall in the academic category because of proximity in the plans. The requirements of the five academic departments are to be housed in the proposed new high school building.

I. LANGUAGE ARTS DEPARTMENT

Language arts provide essentially a continuation of the fundamentals taught in the elementary grades. These include reading, composition, spelling, grammar, literature, and speech. However, in high school the emphasis is upon advanced studies and experience in complex applications. Such special work develops as dramatics, library usage, debate and public speaking, journalism, and the communicative arts. Emphasis upon literature in all its forms and upon clear, appropriate expression help develop the individual student's personality. The laboratory extensions of the English department become an important part of the student life of the school.

Foreign language is a common part of the program of students in the larger schools. The small high school (especially with educational television and applications of programed materials in a language laboratory) can likewise provide competent foreign language instruction.

It would seem that if all pupils take English in grades 7 through 12 five periods a week, it would be a simple matter to estimate the classrooms required to accomodate the English curriculum. Basically this is true, but observation of the departmental program shows need for small group instruction, for library usage, for practice sessions on a platform or stage, for use of language laboratory individual recorder-playback equipment, and for journalism projects such as school newspapers or senior yearbooks.

Many activities occur in the auditorium with the community invited as spectators: e.g., dramatics, graduation ceremonies, assemblies with speakers, and special programs. The Hull-Daisetta high school already has a fine auditorium. The proposed new library will be a substantial asset to the language arts program. Other existing work spaces are also available such as the school cafeteria. Some specialized departmental facilities will need to be built.

A. Purposes of the Department of Language Arts

The language arts program provides an instructional progression, each course building upon knowledge and skills attained in earlier grades. In addition, speech, drama, and journalism courses are offered as electives in the secondary school program. Certain instructional elements are common to all grades. These elements are reading of exposition and literature; listening to both exposition and literature; composition, oral and written, expository and creative; and grammar, usage and mechanics. If these provisions are met, the language arts department is committed to a broad comprehensive program designed for personal and individual improvement. If speech, drama, and journalism courses are offered as electives, in addition to producing valuable individual and group experience, they will serve to reinforce desirable outcomes of the required language arts courses.

Foreign language study, also included in the broad field of language arts in smaller schools, develops basic verbal and written communication skills. The study of foreign language should acquaint the student with customs and cultures of a particular country and people. Students should be encouraged to try for mastery of the particular language they choose to study.

The major objectives of the Department of Language Arts may be stated as follows:

(1) Continuity and sequence in English language development:
  - To create an environment favorable to language growth and vocabulary development
  - To promote overall growth in skills of reading, listening, observing, speaking, and writing
  - To provide opportunities for students to practice self-expression, both written and oral
  - To develop good reading habits leading to appreciation of, and attitude toward, literature which will extend from school reading to a later program of personal reading

(2) Development of dual functions in the language arts courses:

- The skills of language are studied, used, and developed by use and application in the content areas of English study
- The learning of skills and their refinement are a part of the same process by which knowledge and understandings are developed
- All these processes and skills are taught within the framework of subject matter applied to functional situations, present and potential

(3) Proficiency in speaking, reading, writing, and understanding a second or foreign language, and the stimulation of interest in the customs and culture of another country and people:

- Bi-lingual speech is a basic objective of all language courses
- High school foreign language programs should be carefully articulated in order to capitalize on any previous language experiences the student may have had

B. Discernible Trends in Language Arts

(1) Grammar, spelling, reading, and language usage taught in relation to content and application, rather than as separate learning situations

(2) Increased attention and emphasis upon habits and patterns of expression as exhibited by the indiviudal student in purposeful written and oral learning situations

(3) Individualized reading programs based on student needs and interests

C. Organization and Activities in Language Arts

(1) Increased application of the "staff utilization principle" in methods, patterns of courses, and course offerings

- Variations of the principle of team teaching
- Programed learning
- Variable size groupings
- Independent study projects
- Flexible scheduling patterns
- Clerical aides for teachers

(2) Increased use of audio-visual techniques, including television

(3) Language laboratory experiences both for English and foreign language

(4) Increased emphasis upon achieving a closely articulated program of language study and experiences from grades one through twelve

D. Probable Courses Offered in Language Arts in Hull-Daisetta School District

Courses	Grade Level	Estimated Enrollment	Size of Classes	Number of Classes
English	7	60	25	3
English	8	60	25	3
English	9	50	25	3
English	10	50	25	2
English	11	40	25	2
English	12	30	25	1
Related English (Speech, Drama, Journalism)	10-12	15	25	1
Foreign Language	9-12	50	25	3
Total		355		18

E. Space Requirements (Total four standard classrooms.)

(1) Three full-size English classrooms of 30 pupil stations each (minimum 900 square feet net each)

(2) One multi-oriented classroom for foreign language instruction of 25 pupil stations

(3) Rooms that are interchangeable

(4) Provision for combining two of the English classrooms as a 60 pupil-station unit in the event of team teaching (this might be a carpeted suite of two adjoining classrooms)

(5) Equipment of a standard multiple-oriented classroom (refer to "standard classroom" described above)

(6) Supplementary areas:

- Office for English department to be used by English faculty and also for individual or small group student work
- Similar office for foreign language department (this office also could be used for foreign language classes of five or six students)
- Office for journalism to be used primarily for student editors and storage - two or three work stations and a work table

F. Internal Traffic

(1) English classes will study in and use the library during and after school - therefore, English classrooms should be near or adjoining the library

(2) Foreign language classroom should adjoin the programed materials laboratory of the educational materials (library) center

(3) Drama-speech will divide its activities among the language laboratory, cafeteria, and auditorium

G. Storage

(1) Steel vertical file cabinet in each English classroom

(2) Executive type desks for teacher's storage and in departmental offices

(3) Free-standing cabinets in classrooms (to be specified)

(4) Special foreign language equipment storage (to be specified)

(5) See also general supply storage

H. Special Requirements

(1) Electrical outlets on all sides of classrooms (English classes use audio-visual aids; foreign language classes may use portable language laboratory equipment)

(2) Display and work tables in each classroom

(3) Adequate space to facilitate aisle circulation since various activities are performed (small group activities are common in language arts classes)

(4) Display provisions outside the classrooms (corridor or foyer)

(5) Offices should be well lighted and adequately ventilated for small group meetings

(6) Language laboratory equipment - 20 pupil stations (to be specified)

(7) Provisions for darkening rooms for overhead projector use

I. Permanent Furnishings and Equipment

Furnishings for above listed offices (to be specified)

J. Alternative Utilization of Spaces

(1) The number of language arts rooms listed above is a minimum (other standard classrooms in the building will be shared by the language arts department as required)

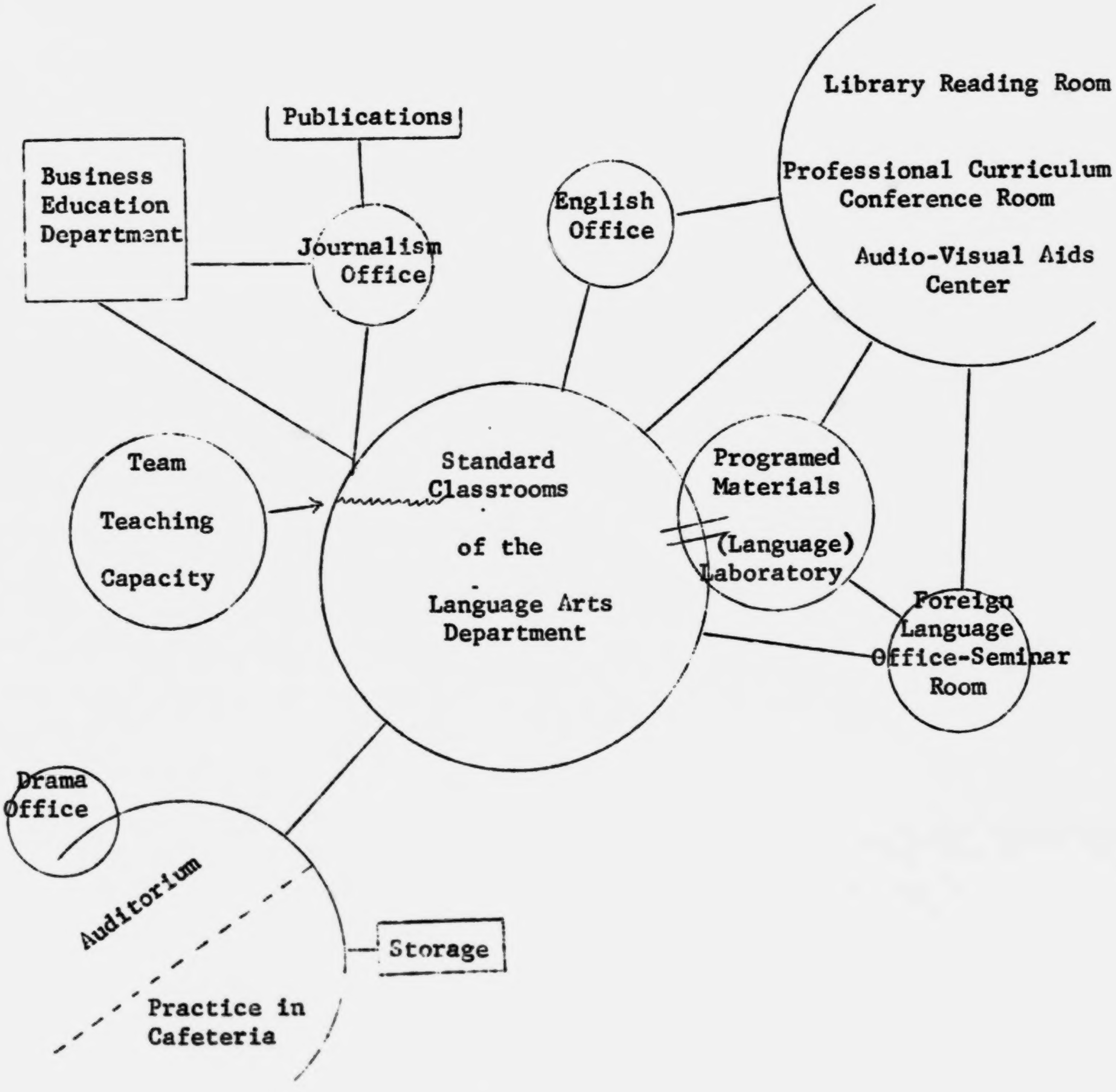
(2) The programed materials laboratory to be shared

(3) The auditorium to be used for practice and for public presentations (the cafeteria also could be a practice room)

(4) Journalism activities to share duplicating equipment of the business education department

(5) English classes may meet occasionally in the library

K. General Area Relationships of the Language Arts Department


Library Reading Room
Professional Curriculum Conference Room
Audio-Visual Aids Center
Publications
Business Education Department
Journalism Office
English Office
Team Teaching Capacity
Standard Classrooms of the Language Arts Department
Programed Materials (Language) Laboratory
Foreign Language Office-Seminar Room
Drama Office
Auditorium
Storage
Practice in Cafeteria

II. SOCIAL STUDIES DEPARTMENT

Social studies occupy an important place among the required high school subjects and in school life. Included in this field are American and world history, geography, social science, government, economics, and citizenship. While social studies teachers usually arrange their rooms as a social studies laboratory, the necessary furnishing and equipment can be contained in standard interchangeable classrooms. Social studies classes should, like the English classes, be located in proximity to the library and make extensive use of the educational materials (library) center.

The social studies department should exercise a leadership role in helping students develop into individuals who are personally well-balanced, possess a social and economic awareness of our culture and society, and an understanding of our position and responsibilities at national and international levels. To accomplish these ends, the space arrangements in social studies rooms must be concerned with activities and experiences above and beyond the ability to recognize or recall information about people, places, and events. The social studies department must make use of broad reference reading, individual student research, small group conferences and seminars, educational television, and audio-visual aids. The social studies classes tend to combine large class recitation methods with workshop plans of organization. There are problems of storage and display of learning materials. Laboratory extensions of social studies include student council, school assemblies, and advanced projects for gifted students.

A. Purposes of the Department of Social Studies

Social studies is concerned with fields of knowledge drawn from the various social disciplines and is centered around the social institutions of man and man's function within a social society. The studies in this area involve the reaction of man in and with the various relationships which exist between him and his physical and social environment.

Social studies must also guide the individual, through study and experiences, into a position of constructively contributing to his society and culture. The specific goals are:

(1) To give students a knowledge of our American heritage and of the moral and spiritual values inherent in the American culture

(2) To acquaint students with countries other than their own so that they may make intelligent comparisons

(3) To trace the effect of history on the foundation and growth of the United States

(4) To trace the forces that have helped to shape our political, social, and economic institutions

(5) To give students a knowledge of the organization of government in a successful democracy as a basis for understanding current political developments in a cause and effect relationship

(6) To help students understand that the rights and privileges of a democratic society require attendant responsibilities and duties

(7) To help students develop and understand the concepts which will enable them to function effectively independently or as a member of a group

(8) To help students better understand themselves and their culture

B. Discernible Trends in Social Studies

(1) Emphasis upon skills and study habits specifically related to increased understandings in this area of study

(2) A shift in time emphasis from the study of the past to an analysis of the present in the light of the past and implications for the future

(3) Sequence and continuity of experiences originating with self and local environment gradually expanding to include an understanding of and adjustment to city, state, national, and world environments

(4) Seeking outcomes related to a better understanding of broad trends and developments with their implications rather than emphasizing the amassing of specific factual information about small segments of national and world activity

C. Organization and Activities in Social Studies

(1) Increased application of the "staff utilization" principle:

- Variations of the principle of team teaching
- Programed learning
- Variable size groupings
- Independent study projects
- Flexible scheduling patterns

(2) Increased use of audio-visual aids and techniques such as:

- Intelligent and creative use of recordings, films, slides, tape recorders, overhead projectors, maps, charts, gloves, bulletin boards, and field trips
- Utilization of commercial television, educational television, radio, press, and adult news magazines

(3) Extensive use of:

- Library
- Community resources

- Variety of forms such as panels, forums, debates, discussion, visiting speakers, committee activity, etc.

D. Probable Courses Offered in Social Studies in Hull-Daisetta School District

Courses	Grade Level	Estimated Enrollment	Size of Classes	Number of Classes
Social Studies	7	60	30	2
Social Studies	8	60	30	2
Texas History	9	50	30	2
World History	10	50	25	2
American History	11	50	25	2
Government (½)	12	25	25) (	1
Economics (½)	12	20	25)	
Total		305		11

E. Space Requirements (Total two standard classrooms.)

(1) Two full-size classrooms of 30 pupil stations each would be the least number possible for current enrollment. These rooms should have a minimum of 900 square feet working area per classroom to allow for storage cabinets, movable seating, tables for group work, displays, audio-visual equipment, etc.

(2) Probably the daily schedule can not be over 60 per cent to 70 per cent efficient in utilization of pupil stations in a small high school, so the overflow of social studies classes will probably occupy a third full-size classroom.

(3) Seventh and eighth grade sections will occupy one of the social studies classrooms and senior high school sections of the other room.

(4) A conference-seminar room (300 square feet) with glass frontage seating up to fifteen persons should be adjacent for small group

conferences, individual project work, and office space.

(5) A movable partition separating the two social science classrooms would permit team teaching with a reorganized curriculum (e.g., at the 7, 8, 9 grade level).

(6) A store room would be desirable in which to keep maps, charts, projectors, globes, teaching materials, and supplies.

(7) Optional. A student activities room for committee meetings, ticket sales, and activity records would be a valuable laboratory extension of the social studies department.

F. Internal Traffic

(1) Extensive use of the library and the audio-visual center is anticipated. One of the social studies classes could open directly into the library.

(2) Classrooms must allow for optional orientation toward:

- Audio-visual
- Educational television
- Class recitation
- Student presentations
- Small committee and workshop activity

(3) Team teaching would involve flexibility of 60-30-15 grouping separation for a part of the time. (Also team teaching requires faculty office space for preparation.)

(4) Ample circulation space is needed in the classroom so that laboratory techniques may be followed where pupils work in small groups around tables.

(5) Classrooms must allow for display and viewing of various types of exhibits.

(6) Storage cabinets should be designed so as not to destroy sufficient wall spaces for chalkboard and exhibits. (The proposed social studies storage room would help in this respect - especially since a movable partition between the rooms is recommended for possible team teaching.)

G. Storage

(1) Free-standing cabinets designed for specific types of learning materials: charts, maps, globes, periodicals, magazine and newspaper rack (to be specified)

(2) Bookcases and display racks should be standard equipment in social studies classrooms (45 linear feet of book shelving for 400 volumes)

(3) Vertical file cabinet in each room

(4) Supply room accessible

(5) Major storage in the library audio-visual and materials center

H. Special Requirements

(1) Television

(2) Darkening shades

(3) Built-in projection screen

(4) Bulletin board (4' x 30')

(5) Teacher planning office and seminar room

(6) Optional: Raised dais in one classroom

I. Permanent Furnishings and Equipment

(1) Student desks and chairs for junior high and for senior high school ages

(2) Overhead projector and other audio-visual aids (to be specified)

(3) Two work tables per classroom, approximately 3½' x 10'

(4) Vertical file cabinet, steel with locks, per classroom

(5) Portable blackboard on frame

(6) Display racks (to be specified)

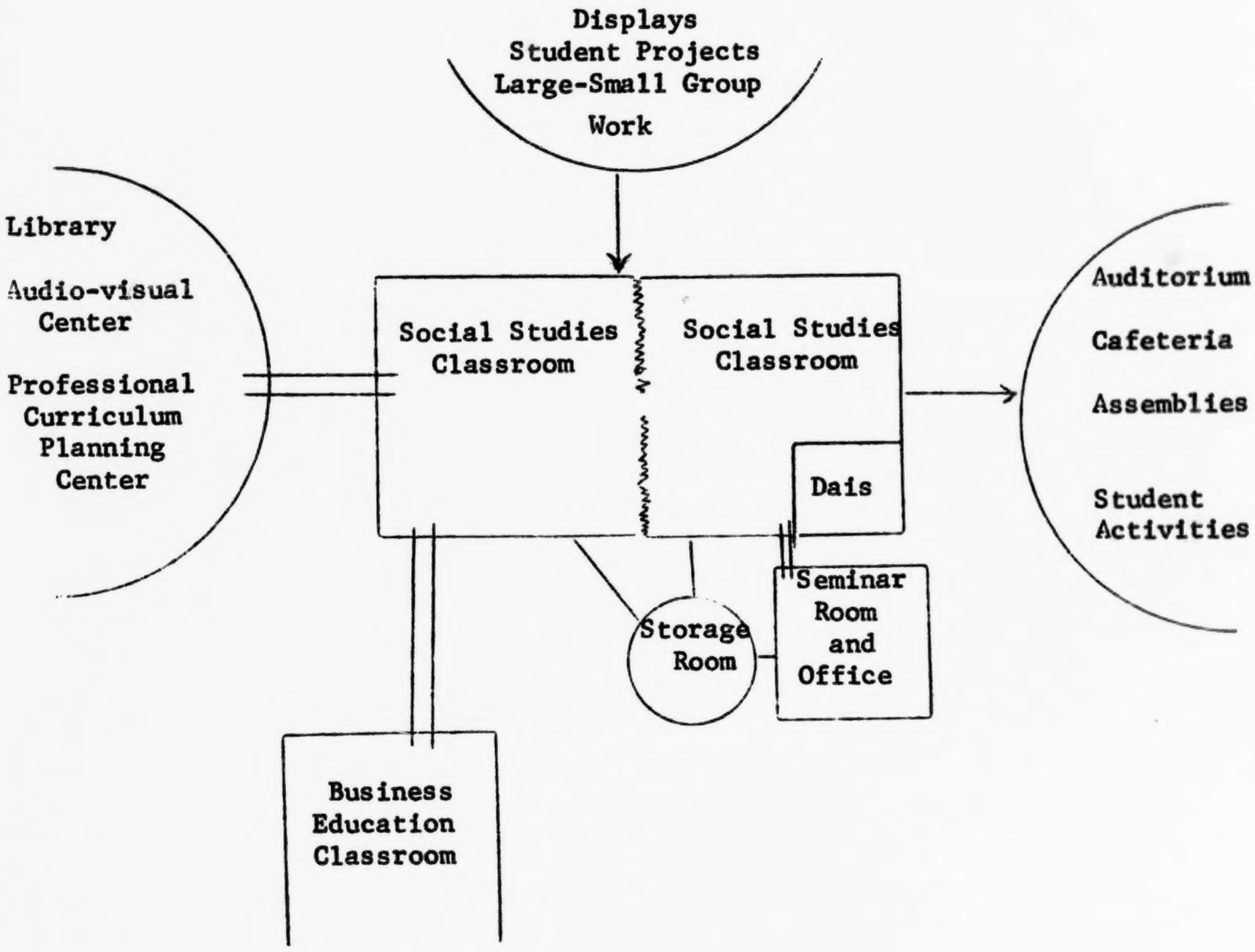
J. Alternative Utilization of Space

(1) Social studies classrooms are interchangeable with other academic subjects

(2) As enrollment increases there could be allowance made for adding a team teaching classroom triad in the building addition

(3) Grouping social studies classrooms with business education classrooms could gain flexibility of space for both

K. General Area Relationships of the Social Studies Department


Displays
Student Projects
Large-Small Group
Work
Library
Audio-visual Center
Professional Curriculum Planning Center
Social Studies Classroom
Social Studies Classroom
Dais
Auditorium
Cafeteria
Assemblies
Student Activities
Storage Room
Seminar Room and Office
Business Education Classroom

III. SCIENCE-MATHEMATICS DEPARTMENT

Science education in grades 7 through 12 combines several branches: elementary science, earth science, biology, chemistry, physics, etc. Laboratory work is characteristic of the elementary sciences and of the advanced sciences, but the elementary classes do not require as heavy furnishings and equipment for their classroom experiments. At both levels an adequate demonstration desk is required for the instructor. Probably two large science classroom laboratories would serve the immediate enrollment, but the plans should provide for expansion with utility runs extending through two additional classrooms.

The sciences and mathematics subjects have an affinity in the curriculum and in their intellectual similarities and relationships. As to teaching methods and organization, however, they hold little in common. For all practical purposes the mathematics classes could be located in any part of the building where two standard classrooms are available. But from the standpoint of designing the science department for future expansibility, it is suggested that the four rooms assigned for science and mathematics constitute a continuous suite.

With the rapid growth of knowledge in science and mathematics it seems probable that the curriculum offering will undergo constant revision. Programed materials, educational television, and audio-visual methods could change the schedule considerably. New needs such as ten-week intensive short courses may emerge. The emphasis in planning must be on flexibility to accomodate new methods.

A. Purposes of the Departments of Science and Mathematics

The Science Department

High school science programs must be concerned with effective living in society, as well as specific science offerings in the college preparatory program. In view of the rapid advancement and changing emphasis in science areas, the curriculum must remain flexible and amenable to change.

An attempt should be made to provide sufficient opportunity and challenge for the interested individual to make rapid and continuous progress according to his ability. The less interested and/or less able individual should be provided stimulating experiences to enrich his understanding of scientific information and its relation to modern living.

General objectives of the science department are:

(1) To provide the student with an understanding of the nature of scientific inquiry; that science is a continuing, open-ended, intellectual activity constantly growing and changing

(2) To equip the student with an understanding of how scientific concepts are developed and of how to evaluate new scientific data that become available, and their implications for modern living

(3) To assist the individual in making satisfactory adjustment to increasingly complex problems of a scientific nature

(4) To aid the student in interpretation and understanding of the various aspects of the world in which he lives

(5) To learn some of the basic principles needed in the further study of more specialized sciences

(6) To provide the student with an understanding of science and its effect on environment so that he can perform effectively in a

technical society

The Mathematics Department

A rising social awareness of the need for and values in the study of mathematics has produced rapid and marked change in curriculum organization, emphasis in study, and methods of teaching. This movement should result in a strengthening of the whole mathematics program and a closer association of mathematics with studies in science.

The study of mathematics is easily justified by its usefulness in advancing the social intelligence of the students in dealing with those human relationships which pertain to quantity, time, and distance. By means of its processes of quantitative thinking, it is invaluable as an approach to the study of the natural and social sciences.

General objectives of the mathematics department are:

(1) To make the activities connected with numbers vital, interesting, and geared to the maturation of the students

(2) To develop an appreciation for the need of knowing how to perform mathematical operations

(3) To provide a systematic step-by-step development of the fundamental operations in such a way that each step is both mathematically meaningful and socially significant

(4) To provide a comprehensive review and maintenance of the fundamental skills

(5) To use mathematical facts in problems of economic significance

(6) To give the student those ideas and skills in mathematics which are necessary for living in a technical society

(7) To provide a mathematical program wherein each student can continuously progress in the acquisition and utilization of these skills

B. Discernible Trends in Science and Mathematics

Trends in Science Education

(1) More emphasis upon the structure of science and the processes of thinking, rather than the products of scientific study

(2) A closer look at the controversy between laboratory experiences and demonstrational teaching. The type of desired outcomes should control the choice of methodology

(3) Increased attention given to individual student's rate of progress in relation to ability and personal interests

Trends in Mathematics Education

(1) Placement of students in a mathematics program according to ability, needs, and interests

(2) Increased use of programed learning and machines to do simple computations in advanced level study

(3) Increased opportunity to use and refine mathematics skills in a closely oriented social and natural science program

(4) Increased use of projects, small group activity, and individualized study

C. Organization and Activities in Science and Mathematics

Science Program

Organization in the field of science will include the following:

(1) Lecture, films, panel, demonstration, and other forms of group presentation

(2) Group and individual laboratory experiences

(3) Discussions, planning conferences, and other activities for small groups

(4) Working with living plants and animals under scientifically controlled conditions

(5) Experiences with preserved biological specimens and with equipment, miscellaneous charts, diagrams, models, microscopes, and centralized science library

(6) Use of periodicals, handbooks, charts, filmstrips, tapes, and other resource materials

(7) Individual study programs with machines and programed learning materials

(8) Individual participation in science fairs, exhibits, and other project-type activities

Suggested course offerings in the field of science include:

(a) Biological sciences:
  - General life science
  - Biology
  - Advanced biology
  - Advanced biology seminar

(b) Physical sciences:
  - General physical science
  - Chemistry
  - Electronics
  - Physics
  - Advanced physical science seminar
  - Earth science

Mathematics Program

A sequence and continuity of mathematical experiences is required so that all students may continue to make progress. A two-directional program is a minimum to establish this form of organization:

(1) Mathematics program to meet graduation requirements

(2) Mathematics program for college entrance and possible advanced study in either mathematics or related fields

Possible course offerings in mathematics needed to care for both groups of students:

(a) To meet graduation requirements, choices offered from:

- Basic mathematics
- General mathematics
- Algebra I

(b) To meet college entrance requirements, choices offered from:

- Algebra II
- Geometry
- Trigonometry

Any two of the following:

- Probability and statistics
- Analytical geometry
- Mathematical analysis

D. Probable Courses Offered in Science and Mathematics in Hull-Daisetta School District

Courses	Grade Level	Estimated Enrollment	Si Classes	Number of Classes
Science	7	60	30	2
Earth Science	8	60	30	2
Science	9	50	30	2
Biology	10	30	30	1
Chemistry	11	30	30	1
Physics	12	25	25	1
Mathematics	7	60	30	2
Mathematics	8	60	30	2
Mathematics	9	50	30	2
Advanced Mathematics	10-12	75	25	3
Total		490		18

E. Space Requirements (Total two science classrooms - laboratories and two standard classrooms.)

(1) Junior high school (grades 7-9) science will require a classroom-laboratory slightly larger than the average classroom because of its special furniture and equipment.

(2) Advanced science (biology - chemistry - physics) can be taught in a universal science classroom-laboratory. This room should be the equivalent of 1½ standard classrooms in size (about 1300 square feet overall).

(3) The mathematics classes can be scheduled in two standard classrooms.

(4) An office for the science department chairman, which could also be used as a small seminar room for student groups.

(5) A science-shop room adjacent to the science laboratories. This room is for storage and for preparation of demonstrations and projects.

(6) The mathematics department could use an adjacent seminar room (250 square feet) for small group study.

(7) Optional: A 500 square foot life science herbarium, which usually can be constructed externally to the main building.

(8) Science and mathematics could be located on the second floor if desired, since the equipment and apparatus are generally light weight.

(9) Science reference area and reading room equipped for multi-purpose (350 square feet)

F. Internal Traffic

(1) The introductory science classes should have freedom to move to counter-type work benches extending the length of the side wall, for special laboratory work.

(2) Orientation of the introductory science is toward the instructor's fixed demonstration desk. Visual aids and charts are likewise oriented.

(3) Generally the introductory science classes will be larger (about 30 enrollment) and for their laboratory and project work the students will work in pairs seated at two-student tables.

(4) The advanced science classroom - laboratory will have two main areas - the recitation area containing 30 tablet arm chairs

facing the instructor's fixed demonstration desk and the laboratory area containing 6 fixed four-student science laboratory tables.

(5) Considerable informal circulation occurs in the advanced science room as pupils may go to storage cabinets or fume hood or to the counter-type workbench extending along one wall of the room.

(6) The science department office and the science-shoproom should be adjacent to the two laboratories for easy access.

(7) The optional science reference and reading room should be off the corridor.

(8) In the mathematics rooms 30 movable desks will be arranged in rows - the teacher circulating for supervised study.

(9) The suggestion of 6 study carrels at the rear of one mathematics classroom can be achieved by arrangement of special storage cabinets (to be specified).

(10) Television viewing should be provided for in all rooms as well as exhibit space for charts, models, picture files, and film-strip showing.

G. Storage

(1) Major storage of the science apparatus will be in the science-shoproom (often called the preparation room). This room should have built-in shelves and bins for chemicals and apparatus. An acid-proof sink and work-bench is required.

(2) Other science storage will be in cabinets for flat materials, charts and objects, apparatus, chemicals and supplies, and exhibits.

(3) Demonstration desks

(4) Individual pupil storage lockers

(5) Book shelving in the science reference-reading room for 1000 volumes

(6) Other specialized science storage, e.g., plants, tools, etc. (to be specified)

(7) Free-standing cabinets (designed to specifications) and supply closets will serve the storage needs in mathematics.

(8) Mathematics teachers will share the library audio-visual center, the professional library and curriculum center, and the science reference-reading room.

H. Special Requirements

(1) Audio-visual (darkening, outlets, screens built-in, etc.)

(2) Television

(3) Advanced science requires acid-proof sink drain in the fume hood, 6 four-pupil fixed laboratory desks, instructor's fixed demonstration desk, and at a mid-point of the workbench extending along the wall.

(4) Gas outlets and AC-DC outlets at above points, also

(5) Aquarium fixtures in both laboratories

(6) Introductory science laboratory requires acid-proof sink drain in demonstration desk and a large acid-proof sink with drain boards in rear corner of room at end of workbench that extends along the wall. Gas outlets at these points (to be specified)

(7) Stand-up workbench along entire length of wall should have acid-proof top and gas and AC-DC outlets at 10 points

(8) Optional: AC-DC outlets at the 15 two-pupil desks in introductory science room

(9) Optional: Consideration should be given in the advanced science room to having fixed seating on elevated platforms looking down onto the lecturer's demonstration desk.

(10) DC current should be generated and controlled from the science office adjoining both laboratories.

(11) Herbarium (to be specified), accessible to biology classes

(12) Study carrels in the science reference-reading room

(13) Utility channels in the floor should extend parallel beneath the science tables and along at least one wall; and extended throughout the length of the mathematics standard classrooms as these may need to be scheduled later for science instruction

(14) Ventilated double fume hood installation

(15) Gas, AC-DC current, hot and cold water to acid proof drain sink and drain boards in science shop room

I. Permanent Furnishings and Equipment (To be specified.)

(1) Two large specialized instructor's lecture and demonstration desks

(2) Six four-pupil fixed science laboratory tables with pupil locker drawers

(3) Double fume hood

(4) Two aquariums (to be specified)

(5) Thirty tablet arm chairs (or refer to suggested optional (9) above)

(6) Forty-five stools

(7) Peripheral acid-proof counter-type workbenches with splash board installed along wall of both science laboratories

(8) Audio-visual screens

(9) Chart racks

(10) Fifteen two-pupil science desks for introductory science laboratory

(11) Visitors' chairs (   )

(12) Reading table and chairs, and study carrels in the science reference-reading room

(13) DC current generator or rectifier and controls located in science office

(14) Portable science demonstration table

(15) Two overhead projectors

(16) Storage cabinets (specialized)

(17) Exhibit cabinet

J. Alternative Use of Space

(1) Since there is no certain way to predict how many science rooms may eventually be required, the science suite should be interchangeable and expansible to include the mathematics rooms. (Note suggestion of parallel floor utility channels above.)

(2) Optional: A lecture-demonstration hall for 60 students is worth consideration as an alternative arrangement.[3]

(3) The science shop for storage and preparation is integral to the science laboratories, but the suggested science reference reading area and the mathematics seminar room could have broader applications in the plan design.

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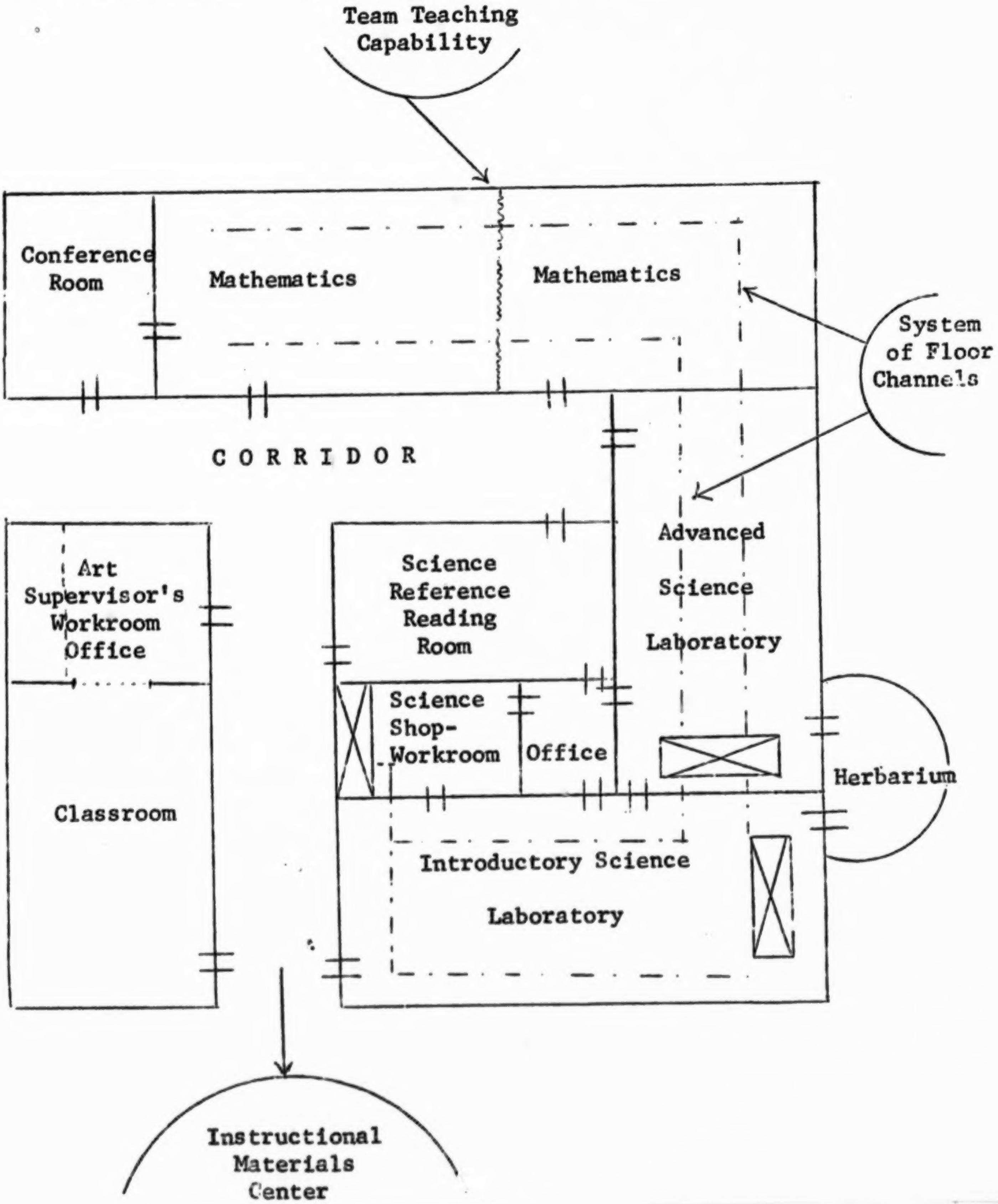
[3] See Profiles of Significant Schools - Wayland Senior High School. Educational Facilities Laboratories, Inc., New York 22, N.Y., 1960. p. 10.

(4) Properly located, the science-reference-reading room could serve as a mathematics seminar room also (see K. below). Or, it would serve other departmental needs or as an occasional small classroom.

(5) Location of the art classroom next to the introductory science laboratory (see K. below) would permit interchangeable use of this classroom by art, science, and mathematics.

K. General Area Relationships of the Science and Mathematics Departments


Team Teaching Capability
Conference Room
Mathematics
Mathematics
System of Floor Channels
CORRIDOR
Art Supervisor's Workroom Office
Classroom
Science Reference Reading Room
Science Shop-Workroom
Office
Advanced Science Laboratory
Herbarium
Introductory Science Laboratory
Instructional Materials Center

IV. FINE ARTS DEPARTMENT

Included in the fine arts department are art education, instrumental music, vocal music, and music theory. A frequent practice in school districts of Hull-Daisetta size, or a little larger, is to employ a full-time education supervisor and a full-time music supervisor. These fine arts supervisors establish a continuous program of art and music in the elementary grades (white and Negro) of the school system. They are resource specialists, teaching and cooperating with the elementary teachers. In the junior high school grades they become departmental teachers so that the theory and practice of art and music is continued into grades 7 and 8 for all children. Some junior high schools have scheduled art ten-weeks, music ten-weeks, shop or home economics twenty-weeks, forming a convenient block of time for concentrated study. In the senior high school grades the teachers would have smaller classes of advanced elective art and music.

Art education has been too much a neglected field in the Hull-Daisetta school system. Actually it constitutes an important part of industry and life. A strong art education program would compensate this cultural lag in the Hull-Daisetta district. A National Education Association research study of "Small High Schools, 1960-61" found art education offered in only 15 per cent of small high schools, showing that this neglect is not confined to the local district, but is generally a small high school weakness, while larger high would normally include art education among its elective subjects.

Instruction in art should begin systematically in the elementary grades to provide incentive and standards for the high school program. For the new academic building it is recommended that an office-workroom adjoining a classroom be designed for a system-wide art education instructor. This instructor would supervise elementary grade art. He also would teach junior high school art and elective high school art classes. It is recommended that art instruction be conducted in a regular standard classroom, with the adjoining art office-workroom serving multi-purposes. Mechanical drawing (one type of art education) is presently given by the shop teacher.

Music education may likewise be a supervised subject in the elementary grades. It may be taught as a regular unit of instruction in junior high school, vocal music and other music subjects being offered as electives in the high school. No new specialized facilities other than a music supervisor's office would be required. Music theory could be taught in various standard classrooms. Vocal music could be practiced in the separate music building, in the cafeteria, or in the auditorium. Probably an office could be built in the renovated separate instrumental music building. It is noted that presently the teacher of instrumental music also teaches the chorus.

In their laboratory aspects, both music and art education contribute in many ways to the student activities, projects, exhibits, and life of the high school.

In the following specifications of music facilities, the provisions for instrumental music have been omitted since this phase of music has been assigned to the special instrumental music teacher who is located in a separate existing building (see discussion of renovation requirements later in the chapter).

A. Purposes of the Fine Arts Program

Arts and Crafts Department

An arts and craft center should be included in every secondary school plant. The study of the arts offers something unique for every individual -- an opportunity for a much needed phase of growth and development. Here the powers of perception, creativity, sensitivity to pattern and design, aesthetic appreciation, color sense, and an individual sense of worthwhile achievement are fostered. These activities are a vital part of every individual's full personality development through the encouragement of sensory, muscular, and intellectual growth. In addition, this can be a fun area as well as one of achievement, and may have a pleasant carryover into adult enjoyment and appreciation.

Every individual should have the opportunity to develop in these areas in view of the intense emphasis placed upon the real and the material in our contemporary society.

Among the purposes of the arts and crafts program are the following:

(1) To help students develop aesthetic values

(2) To provide for a satisfying use of leisure time

(3) To develop a more thorough understanding of our culture

(4) To provide opportunity to explore vocational opportunities in the arts area

(5) To meet the individual's need for self-expression through the various courses offered in the arts curriculum

(6) To help the individual develop tastes and critical judgment in the various art areas

Music Department

Since aesthetically arranged patterns of sound are so much a part of everyone's life, all students should have the opportunity to engage in some area of musical activity and study. Emphasis should be placed upon learnings and appreciation rather than on performance, although adequate performance is desirable and provides rewards and benefits for the individual.

Enrollment in music courses and participation in group activities of a musical nature should be provided for in line with the student's interests, abilities, and desire for successful achievement. The music program should be as flexible, varied, and extensive as schedule and plant facilties will permit.

Among the specific objectives of music education are the following:

(1) To offer the student an opportunity to explore the fundamental music activities

(2) To help the student acquire basic information and knowledge about music as an area and basic knowledge of theory, harmony, and the various stages of music development

(3) To provide the student with quality instruction so that he may receive genuine values from his time and effort

(4) To provide opportunity for participation in performing groups, such as band, orchestra, chorus, small groups, etc.

(5) To provide the training and experience to enable the individual to participate in community, church, and civic activities in the areas of music

B. Discernible Trends in the Fine Arts

Trends in Arts and Crafts

(1) There seems to be a growing interest and need in the art education field in the public school.

(2) A combination of increased leisure time and increasing pressures of modern living are bringing about a greater awareness of the need for relaxing and for the creative values offered in the art field.

(3) Flexibility of structure and new designs in room fixtures permit a variety of activities and arrangements in the classroom situation.

(4) Closer integration of arts and crafts with practical arts brings new value and activity to both areas.

Trends in Music Education

(1) Increasing application of the staff utilization principle in planning more efficiently for variable size groupings of students in music activities.

(2) Careful scheduling of major instrumental and vocal groups permit a more flexible arrangement for group rehearsals.

(3) A greater variety of music activities are being made available for student participation and study.

(4) Better provision (often separate buildings) arranged for music instruction.

C. Organization and Activities of the Fine Arts

A wide variety of activities may be carried on by the arts and crafts department. The two-dimensional activities usually include:

(1)

Drawing and painting

Color and design

Illustration

Figure drawing

(2)

Lettering

Interior decoration

Art service activities (posters, banners, printing production)

Activities in the music department generally include:

(1) Instrumental
  - Concert band
  - Orchestra
  - String orchestra
  - Marching Band

(2) Vocal
  - Girls' Glee Club
  - Boys' Glee Club

(3) Small groups
  - Dance band
  - Instrumental ensemble
  - Vocal ensemble
  - Solo performance

(4) Classroom activities
  - Music appreciation
  - Music theory

D. Probable Courses Offered in Art Education and Music Education (other than instrumental music - see later section) in Hull-Daisetta High School

Courses	Grade Level	Estimated Enrollment	Size of Classes	Number of Classes
Art (ten weeks)	7	20	30	1
Art (ten weeks)	8	20	30	1
Advanced Art (one term each subject)	9-12	20	25	1
Mechanical Drawing	9-12	15	20	½
Music (ten weeks)	7	20	30	½
Music (ten weeks)	8	20	30	½
Advanced Music (one term each subject)	9-12	15	25	½
Chorus	9-12	25	30	½
Total		155		5½

E. Space Requirements (Total one interchangeable standard classroom.)

(1) Art Education need not be assigned a special classroom in a high school as small as Hull-Daisetta school system. However, since the total high school schedule requires other standard classrooms

for 30 students an art classroom is introduced here in the plan located adjoining the proposed art education office-workroom.

(2) The center of art education as far as the junior and senior high school is concerned is an art education supervisor's office-workroom. It should be large enough to accomodate fifteen students and the equipment listed below (300 square feet).

(3) The art education office-workroom should adjoin the standard classroom, equipped with student tables and chairs for 30 students, having a large double door connecting through which supply carts, portable tables, etc., can be moved.

(4) Music Education other than instrumental music requires no additional facilities in the new high school building. An office can be located in the renovated separate instrumental building or other suitable location. Classes can meet in available standard classrooms. However, it is optional to provide a supervisor's office in the new high school building as such an office would be useful. Choral music can be conducted as at present in the auditorium or the cafeteria or the music building.

F. Internal Traffic

(1) Present location of the renovated separate music building has many inconveniences. Bus loading for band must encircle the building, dangerously crossing pedestrian lanes. Instruments have to be carried to the auditorium. The plot plan is a jumble with the instrumental building destroying a large physical education outdoor space that the girls should have, extending to the rear of the site. Eventually a music department facility ought to

be built as an annex of the auditorium adjoining the auditorium stage area. This would improve internal and external traffic related to music and increase efficiency. Removal of the present temporary wood structure would open up the entire play area for physical education achieving full utilization of the campus. Such changes might involve eventual relocation of the superintendent's office, the business office, and the school board room making those spaces available for academic purposes.

(2) The art supervisor and the music supervisor would both be itinerate three-fifths of the time working out of their respective offices.

(3) Vocal music work would have alternative locations (separate instrumental building, cafeteria, auditorium) dependent upon the schedule.

(4) Accessible storage for music education, including vocal music, is required for sheet music, for music stands and other movable equipment, and for choral gowns. Steps should be provided in the auditorium for choral practice and performances.

(5) The art education instructor would have multiple activities both within and adjacent to the art education office-workroom. The office-workroom must provide accessible storage for:

- Supplies
- Equipment
- Student projects
- Movable tables or carts

An adjacent storeroom would make a more orderly arrangement. The office-workroom must have a sink with hot and cold running water, drainboards, work counter space, cupboards. It should have counter level electric outlets.

(6) Located in the art education office-workroom will need to be a teacher's desk and several long work tables about which 15 student chairs can be placed for small class art work instruction.

(7) Art education activities may also require space for a small kiln, for work benches, for small power tools used in projects, and for a few drawing tables.

G. Storage

(1) In the art education office-workroom should be free-standing cabinets with special dimensions to hold art supplies, paints, utensils, drawing boards, large flat paper of various colors, other art paper of various colors, rolls of craft paper, etc. (to be specified). The immediate need is to allow enough wall space for these cabinets.

(2) Cabinets for student projects

(3) Store room with built-in shelves and bins for projects, equipment, charts, heavy supplies such as clay or paints, and standing room for folding easels etc. (to be specified)

(4) Variety of drawer space beneath counter and sink extending length of wall space for storing brushes and smaller objects

(5) In the music education supervisor's office should be file cabinets and a storage cabinet for sheet music

(6) Store room for choral gowns, music stands, etc., or metal wardrobe cabinets for storage

H. Special Requirements

(1) In the art education office-workroom, a work counter with sink extending length of a wall

(2) Counter height electrical outlets for appliances

(3) Electric outlet for kiln, and its installation

(4) Outlets for small power tools to the workbenches

(5) Sink with hot and cold water, and drain counters

(6) Walls capable of display of art work as desired (soft wood walls, for example) floor to ceiling

(7) Separate lighting above counter and work spaces

(8) Adequate ventilation considering crowded conditions, use of paints and chemicals, etc.

(9) Large double door connecting art education office-workroom with adjoining standard classroom where instruction will be given

(10) In the music education areas, acoustical treatment of music units (consider carpeted floors). Use of public address system if in auditorium

(11) Air-conditioned music unit that will trap and separate noise completely from academic classes

(12) Drinking fountains (cooled). Lavatories accessible

I. Permanent Furnishings and Equipment (To be specified.)

(1) Teacher desks (3) (music and art)

(2) Chairs, adult (8) (music and art)

(3) Portable lecture chalkboards (2) (music and art)

(4) Workbenches for arts and crafts with hand tools and small power tools (4)

(5) Drawing tables (4)

(6) Stools (4) for drawing tables

(7) Kiln (small)

(8) Long work tables (to accomodate 15 students)

(9) Student chairs (15) for above tables

(10) Cabinets (to be specified) for art education - see above

(11) Portable tables (2) for art education

(12) Cabinet for student work and supplies (to be specified) in art education

(13) Sheet music cabinet

(14) Vertical steel file cabinets (4) for music and art

(15) Bookcases (2) for music and art

(16) Display cabinets for arts and crafts work in corridor or other location

(17) Tape-recorder play back equipment or hi-fi players (as requested)

J. Alternative Utilization of Spaces

(1) While the arts and crafts office-workroom will accomodate primarily small classes and groups engaged in art lessons, the adjoining standard classroom may be needed only 2 or 3 periods a day for art education. It should contain 30 student stations with tables and chairs

(2) It is recommended this standard classroom be next to or across the corridor from the introductory science laboratory so it can take the overflow of introductory science sections.

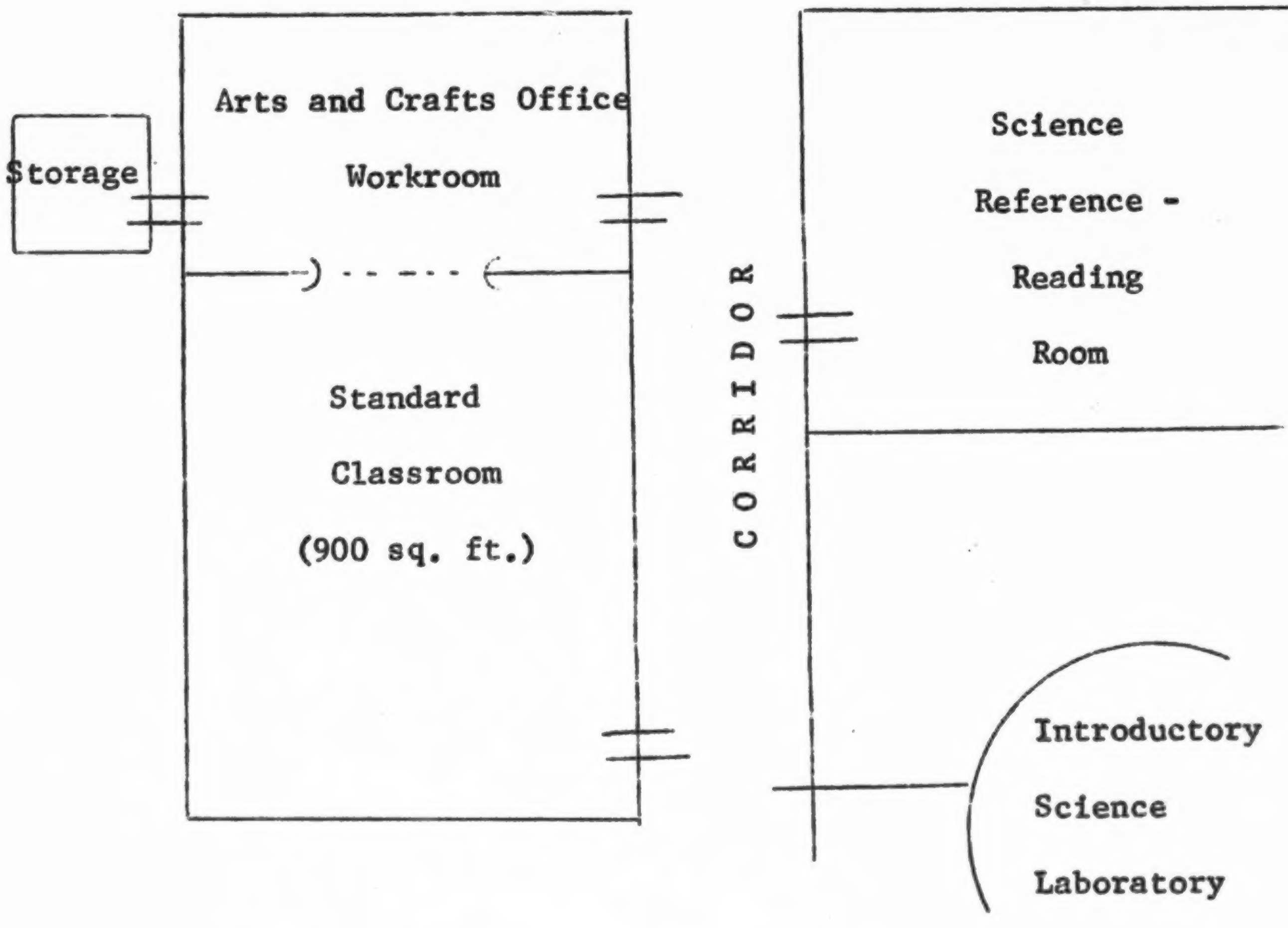
(3) Also, the proximity of the art department to the science-mathematics department may enable some joint use of the proposed science reference-reading room (e.g., art library could be shelved there).

(4) The standard classroom could, of course, be used for any subject as needed in the schedule.

(5) Music theory, vocal music, and instrumental music have a natural affinity and interchangeable use of spaces. They should be grouped adjoining the auditorium stage for efficient operation. They can share storage spaces. They can work in the auditorium, or cafeteria, or the music rehearsal room of the music department. In any arrangement there should be airconditioning and complete acoustical separation from the academic classes.

(6) Music education may want to use the programed materials laboratory sound equipment in the instructional materials center (library) for instructional purposes. However, portable recorders and hi-fi equipment are more commonly used.

K. General Area Relationships of the Art Department


Storage
Arts and Crafts Office
Workroom
Standard
Classroom
(900 sq. ft.)
CORRIDOR
Science
Reference -
Reading
Room
Introductory
Science
Laboratory

V. BUSINESS EDUCATION DEPARTMENT

The curriculum of business education depends upon the demands of trade and industry. It is primarily a vocational field, but because of the nature of its subjects it has more affinity with academic areas than with vocational-technical shops or home economics that normally comprise the practical arts.

Increased use of business machines and more modern types of office equipment are obviously the trend in business education. This need for separation of equipment calls for at least two classrooms and an adjoining conference room even though the department seems destined to remain a one-teacher department of the Hull-Daisetta system. Among the equipment to be housed are manual and electric typewriters, electric calculating and bookkeeping machines, duplicating equipment, and dictating-transcribing devices.

Laboratory aspects include business office experience and practical work experience. The business education students and staff frequently perform services for other student enterprises: e.g., reproduction of publications, advertising materials, student's accounts. Business students also may gain practical business experience in the various school offices.

The business education curriculum must be flexible and adaptable to the changing requirements of business and industry. A variety of changes in types and uses of various office machines will affect the business education course content, time allotments, and size of classes.

A. Purposes of Business Education

Business education recognizes a three-fold obligation: to provide non-college-bound students with the knowledge and skills of earning a livelihood (beginning office workers); to provide college-bound students with a basic business training which will furnish background for further education and/or a means of obtaining employment during college training; and to prepare all students for intelligent participation in the social, political, and business life of their community, and enable them to use sound judgment in the management of those business activities which are common to all regardless of vocation.

To meet this obligation, business education must offer a curriculum designed to offer adequate training, skills, and understandings for all three of these groups of students. In serving such student needs, several general objectives are necessary:

(1) Economic literacy. Every individual needs to understand basic business and economic principles as they exist in our American free enterprise system.

(2) Job competency. The secondary school business education department has for its purpose the laying of a foundation for jobs in the business employment opportunities of the area, and the school should prepare the student with techniques for job competency.

(3) Personal business management. The department of business education through both its vocational and non-vocational courses teaches youth to be better managers of their personal and social business affairs.

(4) Consumership. Every individual, regardless of occupation, uses the goods and services of business. General business courses and training develop educated consumers.

(5) Socio-economic competency. To develop positive attitudes and practical applications in human relations is required in our socio-economic environment.

B. Discernible Trends in Business Education

(1) Application of the "staff utilization" principle through such activities as team teaching, individual and small group instruction, and flexible scheduling

(2) Gearing instruction and desirable outcomes to higher standards of achievement

(3) Applying, in varying degree, the track system to allow for three-fold obligation of the business education department

(4) Complete electrification of business machines

(5) Continuous revision of curriculum and equipment to serve regional business trends

C. Organization and Activities of the Business Education Department

(1) All students should have an opportunity to gain basic skills according to their own interests and abilities.

(2) Students desiring advanced skills and knowledge in business activities should have the same opportunity according to their interests and abilities.

(3) Organization and resulting activities must make full provision for automation and the resulting changes in job opportunity and requirements.

(4) Up-to-date job opportunity surveys should be available to all students.

(5) Provision both in organization and space allotment should be made for large group instruction utilizing modern teaching aids.

D. Probable Courses Offered in Business Education in the Hull-Daisetta High School

Courses	Grade Level	Estimated Enrollment	Size of Classes	Number of Classes
General Business	9	30	30	1
Typing 1	9	25	25	1
Typing 2	10	15	25	1
Secretarial	10	25	25	1
Bookkeeping	11	25	30) (	1
Office Practice	12	15	25)	
Total		110		5

E. Space Requirements (Total two classrooms.)

(1) The typing room, accomodating 25 student typewriters, needs to be separate from and adjoining the business education classroom with a glass partition between so the teacher can supervise both rooms containing class groups in each, as necessary (700 square feet area).

(2) The business education classroom-laboratory should be of standard size (900 square foot area) equipped for bookkeeping, business machines, and other multiple-uses.

(3) A small office-conference room accomodating 10 or 12 students should be accessible from both the rooms and have a semi-glass partition so that small classes or groups may be assigned and also supervised from either classroom by the business education teacher (120 square foot area).

(4) A special duplicating-production room will have extensive use by the business department, the main office, the student publications,

and the departmental programs (200 square foot area). This room can also serve as storage room for business education supplies. It should have access to the corridor and to the business department classroom.

F. Internal Traffic

(1) The typing room should open into both the business education classroom and the corridor with easy flow of traffic.

(2) The teacher will view from various work stations the typing classroom, the business education classroom-laboratory, the office-conference room, and if necessary the duplicating-production room where trained students can operate duplicating equipment.

(3) The typing room will have typing desks in rows and also will accomodate other subjects. Circulation is mainly for teacher supervision, distribution of materials, and exhibits.

(4) The classroom-laboratory will have a variety of business machines and also student tables serving as bookkeeping desks. Work will be partly on machines and partly at desks.

(5) Overflow of social studies classes or other interchangeable use may be expected in this business classroom. The arrangement and contents of the room can not be entirely predicted.

(6) Business department rooms, office, etc., should have entrances from the corridor as they relate to service functions for the rest of the high school.

(7) The trend will be toward all electrical business machine equipment, requiring peripheral electrical outlets.

(8) The duplicator-production room may contain a variety of duplicator equipment and will need circulating and work space for layout of

the materials. It should have access to the corridor, preferably near the administration offices, as well as to the business education classrooms from which it will be supervised.

G. Storage

(1) Free-standing cabinet storage (to be specified)

(2) Metal file cabinets in each room

(3) Bookcase in office-conference room

(4) Shelving and bins in the duplicator-production room for supplies, charts, equipment. Also locked cabinets for unused business machines and equipment

(5) Under-counter drawers for small supplies in duplicator room

H. Special Requirements

(1) Ample electrical outlets in all rooms; e.g., for electric typewriters, electric machines, duplicator machines, photo-copy machines. (Specify number and location.)

(2) High level of illumination

(3) Glass partitions for over-all supervision

(4) Acoustical treatment to reduce all machine noise

(5) Easily accessible handwashing facilities

(6) In the duplicating production area should be a work counter, hot and cold running water, and electrical outlets for such purposes as duplicator, photo-copy machines, and audio-visual preparation methods

(7) Darkening shades or curtains over glassed areas permitting audio-visual work as desired

I. Permanent Furnishings and Equipment

(1) Split-level desks for typewriters (25). Other small classes such as shorthand or business law will have to occupy this room

(2) Conference table and twelve chairs in the small office-conference room

(3) Four smaller desks for work with business machines or individual student projects in office-conference room

(4) Bookcase for office-conference room

(5) Magazine display rack

(6) Steel vertical file cabinets (4)

(7) Business machines (to be specified)

(8) Machine tables (to be specified)

(9) Chairs, including chairs for business machine operators (to be specified)

(10) Teacher desks (2)

(11) Student desks for bookkeeping (15)

J. Alternative Utilization of Space

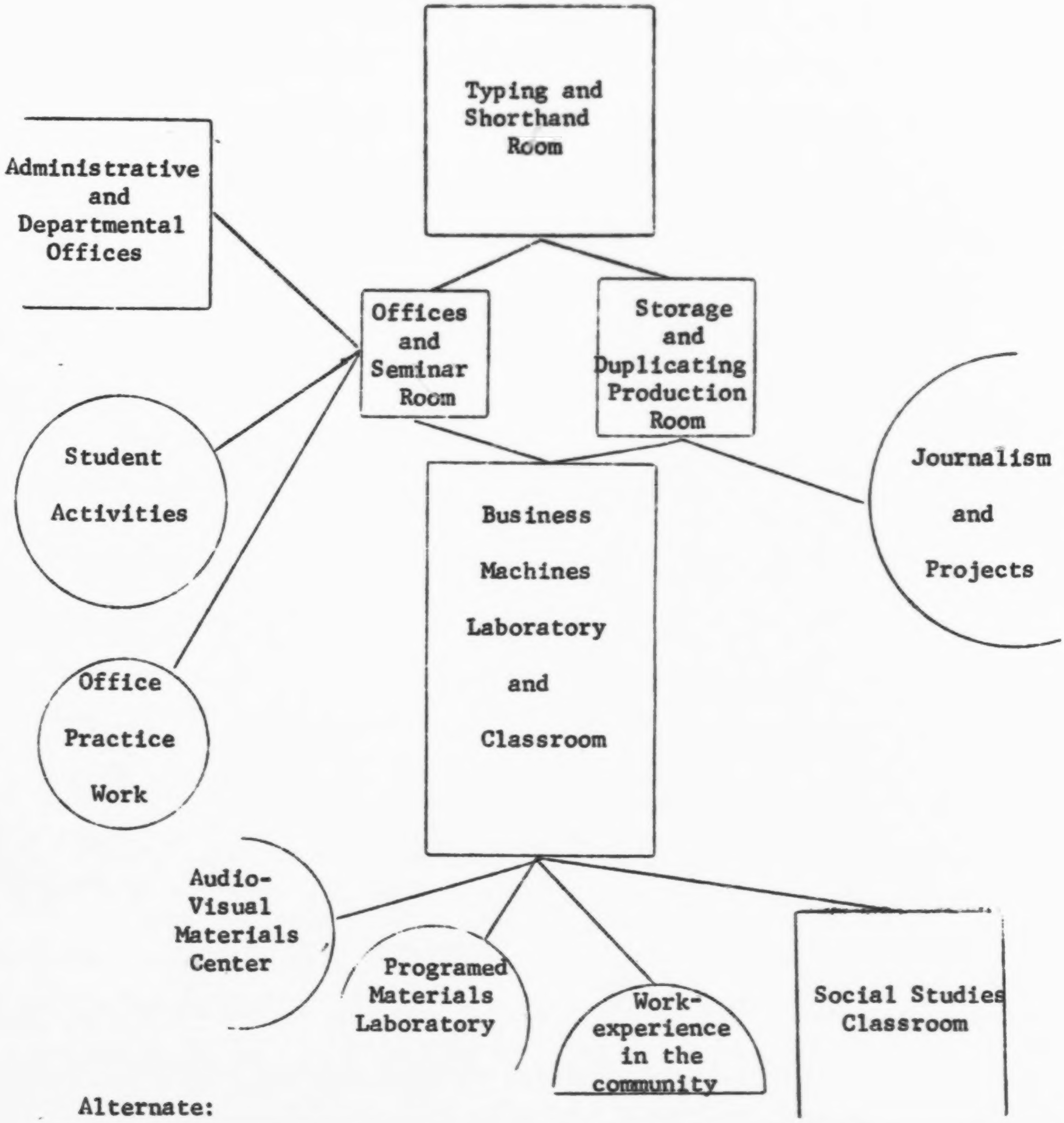
(1) Both the duplicator-production room and the office-conference room will open off the corridor for multiple use.

(2) Typing room can be scheduled for other small business education classes.

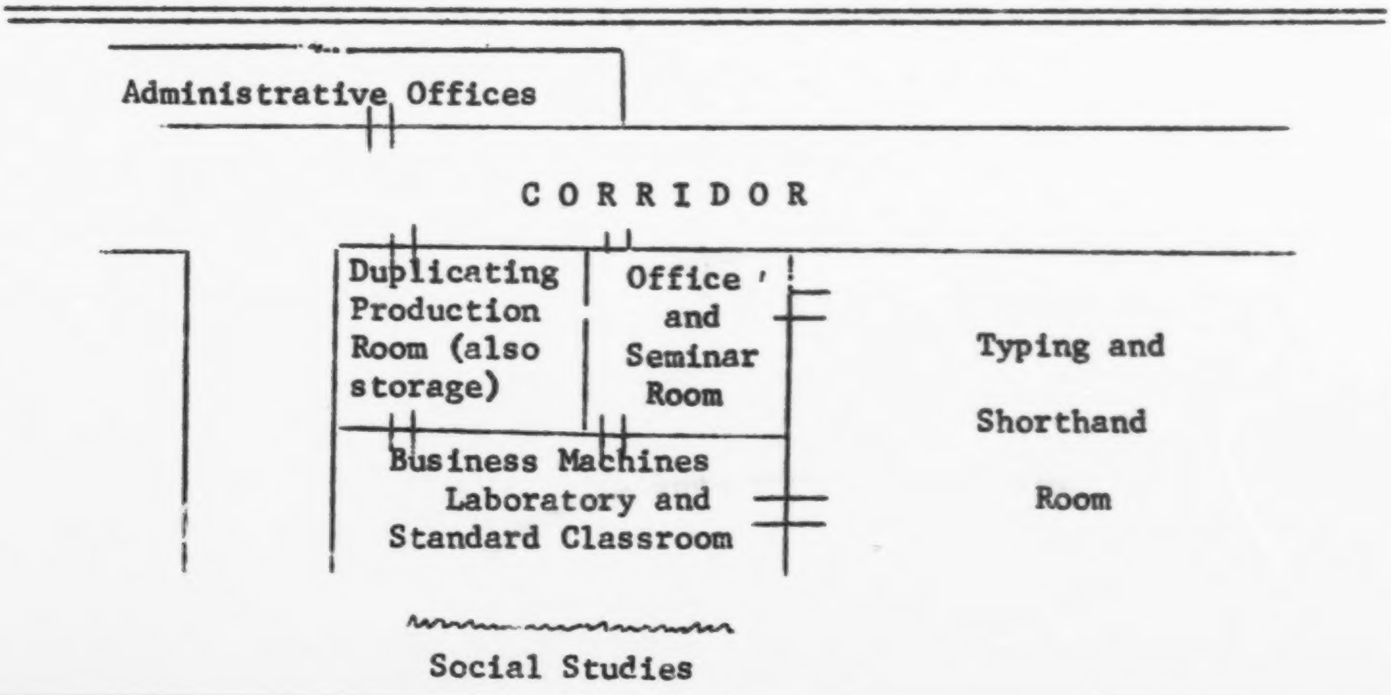
(3) Business education classroom should be an interchangeable room that could accomodate social studies classes three-fifths of the day if desired (folding partition could be considered between business education classroom and adjoining social studies classroom).

(4) The duplicator-production room ought to be very near the main administration offices so it can be supervised by the office after school hours and be readily accessible.

K. General Area Relationships in Business Education


Typing and Shorthand Room
Administrative and Departmental Offices
Offices and Seminar Room
Storage and Duplicating Production Room
Student Activities
Journalism and Projects
Business Machines Laboratory and Classroom
Office Practice Work
Audio-Visual Materials Center
Programed Materials Laboratory
Work-experience in the community
Social Studies Classroom

Alternate:


Administrative Offices
C O R R I D O R
Duplicating Production Room (also storage)
Office and Seminar Room
Typing and Shorthand Room
Business Machines Laboratory and Standard Classroom
Social Studies

SUMMARY OF INSTRUCTIONAL SPACE REQUIREMENTS

In the above analysis of instructional requirements for the new high school, only the minimal needs have been outlined. At first glance, department by department, it would seem that fewer classrooms are requested than the actual enrollment calls for. It may seem that in practical scheduling all the classes could not be fitted into so few rooms in a six- or seven-period day. However, the analysis is functional in terms of the instructional activities which now go on.

The areas specified are the core of departmental facilities required in a modern small high school. Working out from this core, as specified for each departmental program, there are found to be interchangeable classrooms which will accomodate an efficient schedule. Normally, 60 per cent of pupil stations is considered efficient scheduling in a small high school.

The present Hull-Daisetta senior and junior high school faculty contains eleven academic teachers who will be housed in the new building. It contains two administrative personnel (a principal and a counselor), a clerical staff, and a librarian who will also be located in the new building. The other faculty members of the senior and junior high school have their stations in existing buildings such as shop, instrumental music, gymnasium, and home economics.

Tabulation of Recommended Academic Area

Thus, as shown in the following recapitulation of spaces, there have been specified 13 interchangeable academic classrooms of standard size for the 11 academic teachers presently employed. This should accomodate basic home-room requirements and scheduling flexibility of the high school.

	Standard Classroom Equivalents	
Types of Space	Full-Size Standard Classrooms	Conference Rooms and Small Laboratories
Instructional Materials Center:		
Programed Materials Laboratory		3/4
Curriculum Work-Conference Room		1/4
I. Language Arts Rooms	3 3/4	
English Office		1/4
Foreign Language Office		1/4
Journalism Office		1/4
II. Social Studies Rooms	2	
Seminar Room		1/2
III. Science-Mathematics Rooms	4 1/4	
Science Office		1/8
Mathematics Seminar Room		1/8
Science Reference-Reading Room		3/4
IV. Art Education Room	1	
Art Supervisor's Workroom		1/2
V. Business Education Rooms	2	
Office-Conference and Duplicator-Production Rooms		1/4
Total Spaces	13 (interchangeable rooms)	11 (assorted sizes equivalent of 4 classrooms)

What principally has been gained in the above specifications are 11 small conference rooms which total in area only four standard classrooms, but which add enormously to the flexibility and the small-group instruction capabilities of the school plant. The instructional materials center is the focal point of the academic cluster. It will provide a large, accessible reading room and three functionally related auxiliary service rooms. It will accomodate four school aide work stations as desired.

Consideration has been given throughout to the laboratory aspects of the several departments and provisions for student activities which contribute to the life of the school. Emphasis has been placed upon learning and the means of achieving departmental standards. The proposed outline of requirements should handle a 20 per cent enrollment increase before other standard classrooms will need to be added. But the building design ought to allow for and indicate directions of future addition of classrooms outward from the department facility core, as later needs develop.

Proposed Extension of Academic Area

In reviewing the above program of interchangeable classrooms with the school superintendent, it has been proposed that two additional standard classrooms be included in the present project, if the construction funds permit. This would furnish more leeway for enrollment changes as well as for flexibility in scheduling classes.

Part III contains educational specifications for a special education classroom unit. It has been found beneficial, as explained later, to locate the special education class or classes on the Daisetta campus. Presently this class meets in the old high school building. A special education unit should therefore be added to the space requirements in the new high school building plans.

Thus the above recommended 13 interchangeable classrooms, the one special education classroom unit, and the equivalent of four standard classrooms to be occupied by the recommended 11 conference-laboratory spaces, plus the possibility of adding two extra classrooms if funds permit, all together would approximate in usable space the floor area of the old high school building that is scheduled for demolition next fall.

ADMINISTRATIVE OFFICES AND SERVICES

Provision has been made in the educational specifications above for the offices of various academic depar ments as needed, for the school librarian, for school aides, and for possible teacher-supervisors. These office spaces, usually designed as conference rooms, are located in proximity to instructional activities and responsibilities. Some staff personnel will be accomodated in the existing separate buildings: the school superintendent and his staff, the business manager, the physical education directors, the home economics teacher, the shop teacher, and the instrumental music teacher.

Planning for the administration area in the new building needs to be somewhat flexible and expansible since the exact office needs cannot be predicted for a long period of time. Presently the requirements appear to be work spaces for the high school principal, for the secretary and a student assistant, for the guidance counselor, and for the health clinic. Related requirements are public entrance, foyer, conference space, office storage, general storage, vault, public address system control room, men faculty restroom, women faculty restroom. Provision is needed elsewhere for the custodian's office and storage and for a men custodian restroom and a women custodian restroom.

For the building principal, the clerks,and the guidance counselor a suite of small offices would be most practical. All the offices need to refer to the same central file of pupil records and data. They should look inward toward the school, but also on frequent occasions they have public visitors, parents, etc., who should be treated as adults. The health clinic can be separated for emergency, for routine health services, and for the school nurse and health records.

A. Foyer

Suggestion was made above that the main public entrance open into a foyer that would be a school commons. From the foyer should be an entrance to the library which is showcased. The foyer would constitute a reception area for students and the public who have business with the administration offices. An open style of design would prove interesting wherein the public and students have comfortable seating in a pleasant environment with informal egress to corridors and approach to the administration office. A receptionist located in the foyer could serve many duties: source of information, distribution of mail and bulletins, collector of data from students, principal's private secretary, controller of supplies, attendance clerk, telephone control center, keeper of innumerable student records, account books, and files, and as general clerk, including duplicating. The layout may be either a specialized desk at one side of the open foyer or a counter along the foyer wall with glass partitions above that could be closed and locked (or a combination of the two arrangements).

(1) Special Requirements of the Foyer

- Arrangement of space and seating so that there are no drafts or discomforts
- Space separation so that corridor traffic does not conflict with the reception area of the foyer
- Acoustical treatment, since at times there will be considerable traffic both in the corridor and the reception area
- Public parking near main front entrance
- Electrical outlets for appliances, lamps, etc., in the foyer
- Drinking fountain (cooled water)
- Men teachers' restroom and women teachers' restroom off the corridor near the foyer

(2) Furnishings and Equipment of the Foyer

- Two or more wall benches seating 16 persons
- Nine upholstered seats in informal groups
- Space divider to separate corridor traffic at rear
- Three small reading tables for occasional reading material

B. General Office

The general office should accomodate the full-time school secretary, the assistant student clerk, and, for peak periods, an additional clerk. The room needs to be spacious for files and equipment and for business machines and work table. Connected with it are the vault, the student records, the faculty mail box, the public address system control room, the bell system master controls, etc. The general office requires specialized desks. A small private workroom with glass partition for more concentrated tasks would increase the efficiency of workers in the general office. An office supply closet is needed.

(1) Special Requirements of the General Office

- Circulation space for students and faculty coming and going, and for entrance to the principal's office and guidance counselor's office
- Storage and wardrobe closet
- Vault (to be specified)
- Glass-partitioned area for concentrated work
- Sound-proofed public address system control room which may be combined with the glass-partitioned area
- Electrical outlets for machines
- Wall space for bank of files
- Mail box for faculty distribution
- Carpeting

(2) Furnishings and Equipment of General Office

- Public reception and work counter desk with storage drawers (to be specified)
- Three secretarial desks that can hold electric typewriters or business machines
- Four secretarial chairs
- Work table
- Student record and vertical file cabinets (to be specified)

C. Principal's Office

The principal's office need not be large since a conference room should adjoin it, but it should accomodate five or six visitors. The office should have pleasing decor, be carpeted, have a storage and wardrobe closet, contain space for a display table, executive-type desk, and a filing cabinet. It should have separate doors to the general office, the conference room, and the corridor.

(1) Special Requirements of the Principal's Office

- Carpeting
- Entrance to general office, conference room, and corridor
- Storage and wardrobe closet
- Separate lavatory is not needed since the men faculty lavatory can be located across the corridor

(2) Furnishings and Equipment of Principal's Office

- Executive type desk and chair
- Six visitors chairs
- Display table
- Vertical file cabinet
- Bookcase

D. Conference Room

A conference room large enough for a conference table and 14 chairs should be mutually accessible to the principal's office, the counselor's office, and the corridor. This room may be used by supervisors or additional administrative personnel so it should accomodate also a desk, small table, and file cabinet.

(1) Special Requirements of the Conference Room

- Carpeting and pleasing decor
- Doors to principal's office, counselor's office, and corridor

(2) Furnishings and Equipment of Conference Room

- Conference table
- Conference chairs (14)
- Portable chalkboard
- Desk and chair
- File cabinet
- Small display table
- Bulletin board

E. Guidance Counselor's Office

The guidance counselor's office should have access to the corridor and foyer, to the conference room, and to the general office where student records and data are kept. It should be a place for private conferences with students and for display of guidance materials. The testing program may be administered from this office. Possibly a part-time secretary will assist the counselor occasionally. The office should seat six or eight visitors.

(1) Special Requirements of the Counselor's Office

- Small storage and wardrobe closet
- Carpeting and decor

- Electrical outlets for appliances
- Access doors to corridor, conference room, and general office and foyer
- Space for bookcases and storage of guidance materials
- Built-in bulletin board

(2) Furnishings and Equipment of the Counselor's Office

- Double pedestal desk and chair
- Display table by entrance
- Display rack for guidance materials
- Bookcase (to be specified)
- Vertical file cabinets (to be specified)
- Visitors chairs (8)
- Small secretarial desk and chair
- Typewriter
- Work table along the wall

F. Health Clinic

A health clinic room should be provided adjacent to the general foyer. This is a specialized room opening on the corridor. It is the facility for emergencies, for routine health services, for records, and for a school nurse. It should have separation of nurse's office and waiting area, rest area for ill students, and adequate lavatory with tile floor and wainscot. The nurse's office should be large enough for free-standing equipment and furnishings such as desk, chairs, table, file cabinet, first aid stand, audiometer, etc. Children will be examined, parents interviewed, ill children cared for temporarily, attendance problems and census problems investigated, records kept and reports prepared, first aid rendered, etc.; in other words, a considerable amount of internal traffic will occur. The health clinic should be well-ventilated and lighted throughout.

(1) Special Requirements of the Health Clinic

- Lavatory with ceramic tile floor and glazed tile walls for sanitation, fully equipped (to be specified)
- Folding partition could serve to separate rest room containing two cots from nurse's office (Rigid partition and door is preferable if space allows.)
- Electrical outlets for equipment
- Space separator for waiting area
- Doorway to corridor. (This is a self-contained unit.)
- Bulletin board
- Sanitation is important, but with pleasant color decor
- Storage and wardrobe closet

(2) Furnishings and Equipment of the Health Clinic

- Cots (2)
- Nurse's desk and chair
- Typewriter and stand
- First-aid cabinet
- Visitors chairs (8)
- Records and vertical file cabinets (to be specified)
- Equipment table

G. Men Faculty and Women Faculty Rest Rooms

While some argument can be made for a "faculty lounge," it is believed that faculty rest rooms with adequate dressing room area, separate for men faculty and for women faculty, would be more adequate. The men faculty rest room and women faculty rest room should be off the corridors near the foyer and the professional curriculum workroom. The professional conferences, preparation of curriculum materials, and faculty cooperative projects are provided for elsewhere in the plan, especially in the professional library and curriculum workroom specified for this purpose in the instructional materials center (library).

Both the men faculty rest room and the women faculty rest room should be divided rooms with an attractively arranged lounge or dressing room at the entrance and the lavatories entered by doorway off the dressing rooms. Since the trend is toward a majority of men teachers in high school, the men's and women's facilities can be about of equal size.

Location should be such that the men faculty rest room is across the corridor from the administrative offices. The women faculty rest room should be near the administrative offices and preferably located across the corridor from the health clinic.

(1) Special Requirements of the Faculty Rest Rooms

- Lavatories should have standard fixtures (to be specified)
- Lavatories should have tile floor for sanitation
- Lavatories should have wall mirrors and shelf above the hand-washing facilities
- Dressing rooms at the front should be carpeted and have pleasant decor
- Besides general illumination, the dressing rooms should have wall outlets for floor lamps switched at the entrance door
- Other outlets for coke machines, cabinet refrigerators, coffee making appliances, etc.
- Optional: Built-in vanity table in women's rest room

(2) Furnishings and Equipment of the Faculty Rest Rooms

- Upholstered cots (3)
- Small tables for reading materials (2)

- Occasional chairs (8)
- Other furnishings can be added as desired

H. Custodial Rooms

A storage-office room should be provided for the building custodian. This should be adequate for storage of cleaning tools, chemicals and paints, paper supplies, and other general supplies. It should contain a work bench with outlets for small power tools, and a desk and lockers and a file cabinet.

Off this room should be a men custodians' lavatory and shower. Separately entered from the corridor should be a small women custodians' lavatory and rest room.

(1) Special Requirements of the Custodial Rooms

- Tile floor in the lavatories for sanitation
- Built-in shelves and bins in the storage-office room for cleaning supplies, paints and chemicals, and cleaning equipment (to be specified)
- Floor space to stack general building operation supplies such as cases of paper towels, toilet paper, wax, liquid soap drums, cleaning compounds
- Wall racks for cleaning tools, brooms, mops, brushes, ladders, hoses, etc.
- Work bench with outlets for small power tools
- Floor space for buckets, waste disposers, vacuum cleaners, polishing machines, lockers, work table, and desk
- Laundry utility sink with hot and cold water service
- Outside entrance
- If used for shipping and receiving and additional functions, a loading space must be provided. (Refer also to NCSC Guide for Planning School Plants, Pages 81-88.)

Small custodial service closets with deep utility sinks will be provided on each floor of the new building as needed.

(2) Furnishings and Equipment of the Custodial Rooms

- Desk (1)
- Chairs (4)
- Tool cabinet with lock (to be specified)
- Vertical steel file cabinet for instruction booklets and reports
- Bulletin board
- Cot
- Trucks for moving supply cartons
- Work bench
- Mirrors (2)
- Wardrobe lockers (2) to be specified
- Telephone for late calls or emergency
- Key control cabinet

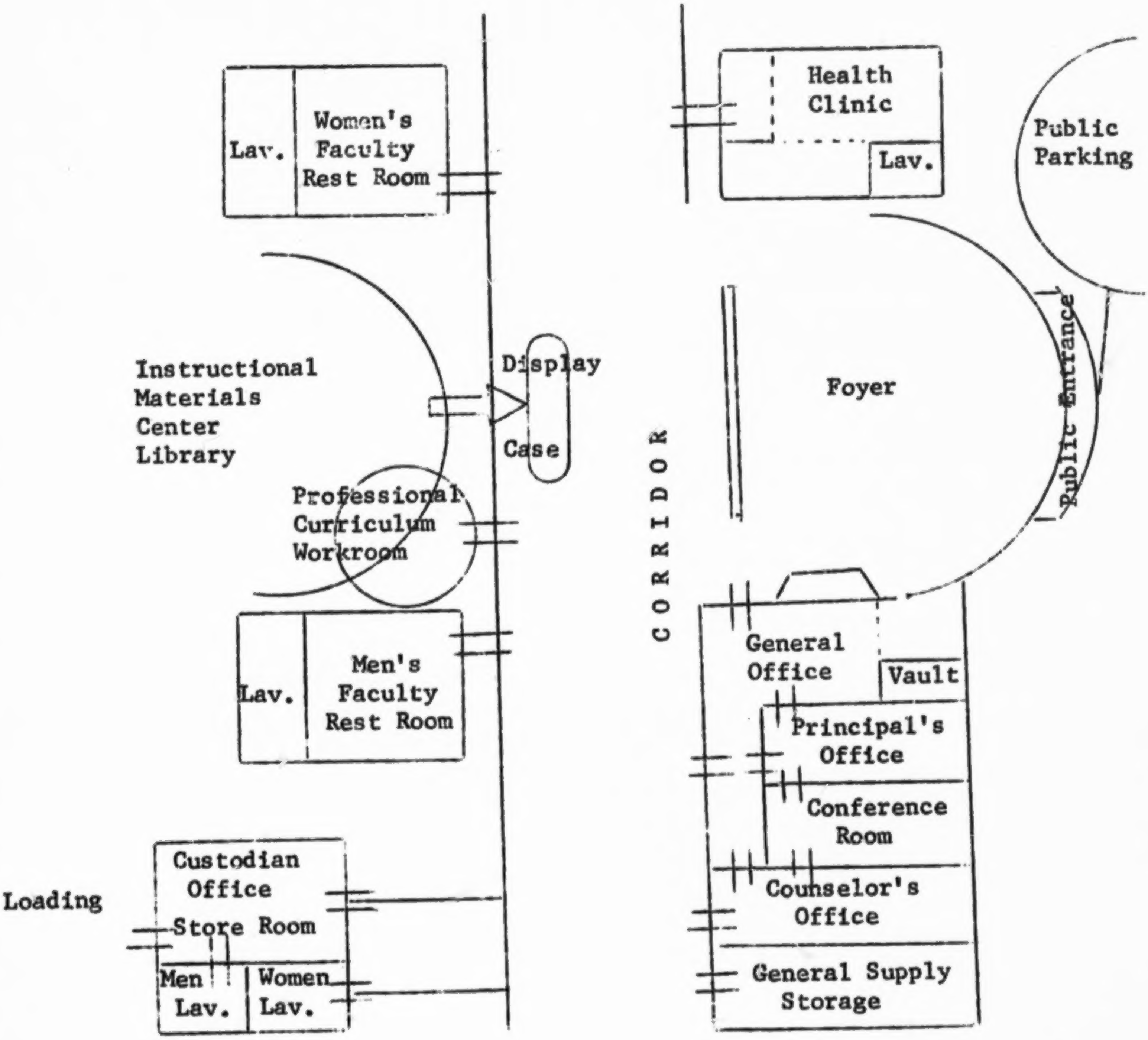
I. General Supply Storage

Although decentralized storage of such items as audio-visual equipment, departmental supplies, books, etc., has been specified above in the instructional materials center and the various departmental facilities, some general storage needs remain for the school as a whole that require a general supply room (approximately 175 square foot). This room should be off the corridor and located near the general office so that the secretary may control it.

Stored in the general supply room will be such items as free textbooks, various paper supplies purchased in quantity, apparatus temporarily not in use or awaiting repairs, surplus maps and charts, and old records. Since these materials have considerable weight, the shelving and bins should be heavy gauge. The shelving and bins should be adjustable (to be specified).

A high level illumination in this and other storage areas would be desirable since it actually is low cost to operate, but will help preserve the condition of the stock, help detect vermin or dirt, and encourage economical operation of the stockroom. A dutch door may be specified for the general supply storage room to assist issuing free textbooks and supplies. Electrical outlets should be included as the room might be converted to other administrative purposes later.

General Area Relationships of the Administrative Offices and Services


Lav.
Women's Faculty Rest Room
Health Clinic
Lav.
Public Parking
Instructional Materials Center Library
Display Case
Foyer
Public Entrance
CORRIDOR
Professional Curriculum Workroom
Lav.
Men's Faculty Rest Room
General Office
Vault
Principal's Office
Conference Room
Loading
Custodian Office
Store Room
Men Lav.
Women Lav.
Counselor's Office
General Supply Storage

RENOVATED SPECIAL AREAS

Since the present proposal calls for continued use of the shop, the instrumental music building, the auditorium, the cafeteria, the business office, the home economics cottage, and the gymnasium, the following section of the educational specifications will attempt to make only some suggestions as to their purpose and improvement. The specifications for renovation of these existing buildings are based upon suggestions the teachers themselves have made and generally acceptable standards for operation of a small high school program.

The discussion below continues the curriculum analysis and statement of facility requirements, in this case limited to renovation, for the following departments: VI. Industrial Arts Shop; VII. Home Economics Department; VIII. Instrumental Music; IX. Physical Education Department.

VI. Industrial Arts Shop

The eventual direction of technical-vocational education at the high school and junior college level would be difficult to predict. The Vocational Education Act of 1963 opens up the opportunity for area studies of the long range needs and possible organization of county vocational schools. All who investigate concede the need for a better program -- to serve the drop-outs who generally become the early unemployed, to retrain workers for the new demands of industry, to meet the national need for higher educated manpower in technical fields. Also, it is doubtful if simply improving current vocational programs will serve the entire need. Further progress may lie in two directions: both a revision of curriculum content in the public schools to provide for new types of mathematics, higher standards of performance in language arts, new content in the social sciences such as economics, government, and sociology, and broader coverage in scientific and technical fields; and furthermore the introduction of two-year technical education for the occupations (from highway and construction work to mechanics and electronics). Obviously these solutions to the problem go beyond the scope of the ordinary public school system.

In respect to this changing scene, the industrial arts shop offers an area of training that no other part of the high school curriculum can claim. The shop can well remain a separate and rather temporary type of flexible building structure. Its equipment can be adapted to multiple projects or subject matter. Even vocational agriculture, if offered, would use much the same tools and facilities. The extent to which an industrial arts shop can serve the wider vocational-technical education suggested above will depend upon the imagination of the instructor and school administration. Programed learning materials, for example, open up much wider fields of activity in the school shop.

The existing metal quonset building located at the rear of the high school site appears to the survey staff to be much better suited for school bus repair, grounds equipment, general maintenance work, heavy storage and warehousing. A school district of Hull-Daisetta's size requires such a maintenance and warehousing building. However, the current building fund has not provided for an alternative new structure for the school shop and the industrial arts program is scheduled to remain in the existing quonset. Before investing much expense in a major remodeling project for the school shop, consideration should be given to the comparative cost of constructing a new shop building of 4,000 square foot area[4] as probably the more economical long-term investment.

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[4] Refer to NCSC Guide for Planning School Plants, pages 58-63, for study of industrial arts facilities.

Yet the existing quonset building does afford basic space and shelter given adequate illumination and air conditioning. Within this shelter could be built at some expense a one- or two-story instructional facility. There would be ample room for storage space. The shop instructor has given the problem careful study and his solution for construction of an industrial arts facility within the quonset is reproduced below.

A. Purpose of the School Shop for Boys (and Girls)

During recent years, trade and industrial education have taken on a new importance in the American way of life. The widespread development of labor-saving devices, and the trend toward automation has made our economy increasingly industrial in nature. Consequently larger numbers of students in search of vocational education are looking for salable skills in trade and industry.

Also, the worker called "technician" is assuming a position of much greater importance. While the exact level on which he should receive his training is still undecided, at least the basic background courses are being offered in some high schools.

Probably the single criterion most essential in determining what to offer in the high school is the demand for workers in a particular locality.

Among the major objectives of practical arts are:

(1) To provide numerous opportunities for the pupil to explore his aptitudes, interests, and abilities

(2) To provide exploratory experiences in the basic processes of several industries so that the student may more wisely choose a vocation

(3) To develop certain basic skills in the use of common hand tools and machines

(4) To develop consumer knowledge so that the pupil has an appreciation of good design and workmanship, and the ability to select, care for, and use industrial products wisely

(5) To instill in the pupil desirable traits of character, such as honesty, integrity, reliability, loyalty, and trustworthiness

(6) To instill in each pupil desirable attitudes and practices with respect to health and safety

(7) To develop in pupils a readiness to assist others, to become effective in group undertakings, and to assume the responsibilities of leadership

(8) To provide experiences which will stimulate creative thinking

B. Discernible Trends in Practical Arts for Boys

(1) Curriculum patterns changing to match the technology of the era

(2) Variety of industrial arts programs to appeal to students of different abilities and interests

(3) Design being emphasized

(4) Mathematics and science being emphasized in natural and practical applications

(5) Training in the communication skills related to the forms and vocabulary of technical knowledge

(6) Co-operative programs with industry

(7) Job analysis and job inventories being obtained from industry

(8) More attempts being made to help students move from practical arts into industry

(9) Follow-up studies on graduates of practical arts programs

C. Organization and Activities of the General Shop

The practical arts program is such that a great variety of activities must be planned for; many times several activities will be happening at the same time. Activities involve the teaching of large and small groups such as demonstrations, lectures, study and research groups, drawing, planning and designing by large and small groups, testing, use of audio-visual aids, and construction on projects.

The usual course offerings in an industrial arts program include wood shop, metal shop, drafting, and mechanics. The number and size of the offerings in these areas will depend upon the changing demands of the surrounding area and the needs of individual students.

D. Probable Courses Offered in Industrial Arts

(1) It is recommended that general shop be offered to all the boys at least in the 7th and 8th grades for 20 weeks a year.

(2) The elective courses in the high school will vary with changing conditions. Currently, the instructor proposes Woodworking (9th - 25 pupils), Cabinet and Boat Building (10th - 25 pupils), Carpentry and Furniture (11th - 25 pupils), Arc and Oxyacetylene Welding (12th - 25 pupils). It would seem that other fields would be attractive: electronics, mechanics, mechanical drawing, and even horticulture.

(3) The basic arrangement of space shown by the instructor in the drawing below may be adequate for the current program. If a new building were to be designed, a re-study of needs would be necessary.

E. Renovation and Remodeling Requirements

As outlined by the instructor, internal traffic would occur along each side wall where there will be workbenches and machines, plus a row of machines in the center of the shop plus machines in the west end of the shop leaving two aisles; one on each side of the center row of machines for internal traffic. There will also be an aisle at each end around the center row.

As to storage, one 6' x 20' wood storage room on the south side and west end of the shop for shop lumber. One 10' x 10' storage room on the north side and west end of the shop for welding supplies plus the space under the stairway. One 10' x 20' on the east end and on the south side of the shop for shop tools. These are on the first floor with one 8' x 10' storage room for paint on the north side of the shop.

Two rows of 2' x 6' x 6' locker rooms on second floor, one beginning on the south side and west end and reaching back to classroom. The other row with an aisle around the west end on the north side extending east to office. Lockers for project materials. One 8' x 8' storage room at east end on south side of classroom.

One library 8' x 22' three shelves high at east end and on north side of classroom. One office 8' x 10' on west end and north side of classroom, door opening into aisle and classroom

The shop instructor has requested the following instructional facilities:

- 25 square feet per student
- 1 classroom
- 20 pupil stations
- Library for shop opening into classroom
- Supplementary area (1860 square feet)

Also the following special requirements:

- New electrical wiring
- Drawing tables and stools
- Drawing supplies
- 1 blackboard
- 1 bulletin board
- 1 desk for teacher in classroom
- 1 chair
- 1 set of filing cabinets in office
- 1 drinking fountain in classroom
- Air conditioning

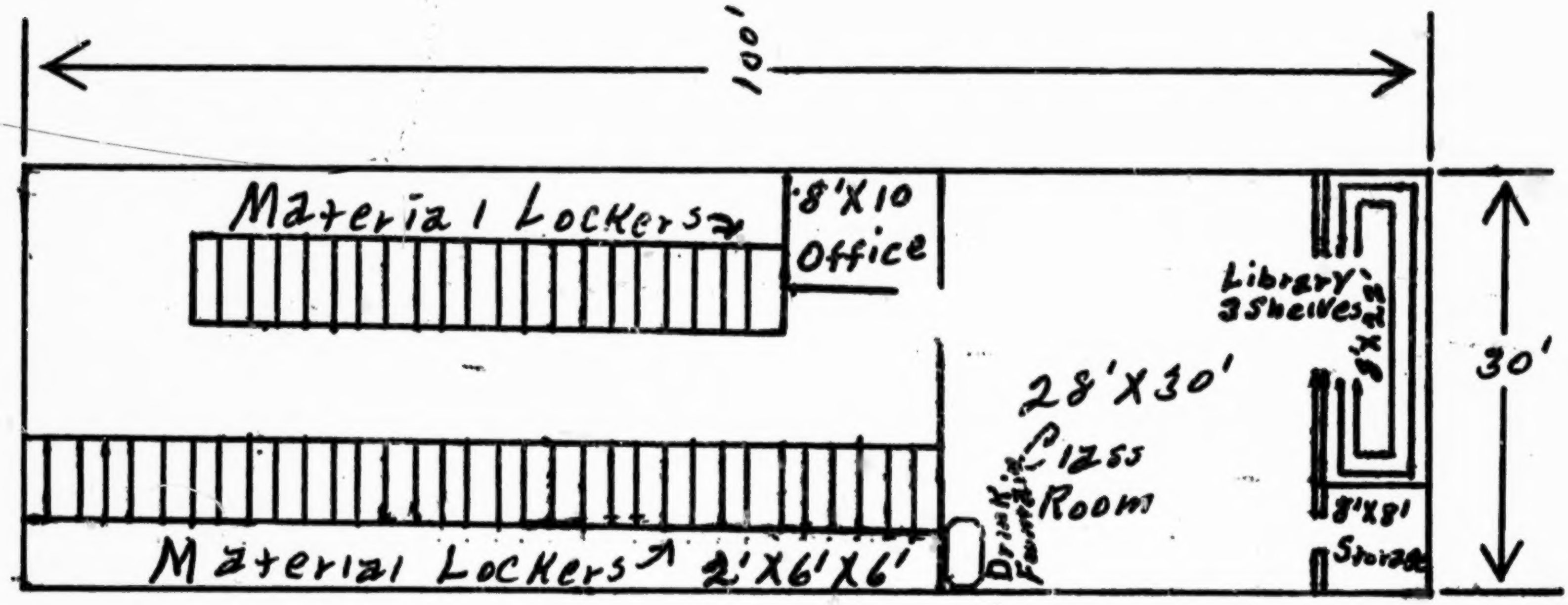
Concerning materials and tools for the shop the instructor enumerates the following:

1 set of auger bits
8 paint and varnish brushes
1 set of wood chisels
3 draw knives
2 hacksaw frames
2 ball-pein hammers
6 nail sets
8 combination squares
6 Lufkin aluminum alloy rules--6'
6 screwdrivers
2 pair vise grip wrenches
2 wrecking bars
1 64-piece crescent set
1 air compressor and spray paint accessories
2 belt sanders
1 band saw
1 planer
1 disc sander
1 soldering gun
2 wood lathes and set of chisels for each
1 Dow turning machine
1 miter vise
expansive bits
1 stencil brush
1 drinking fountain

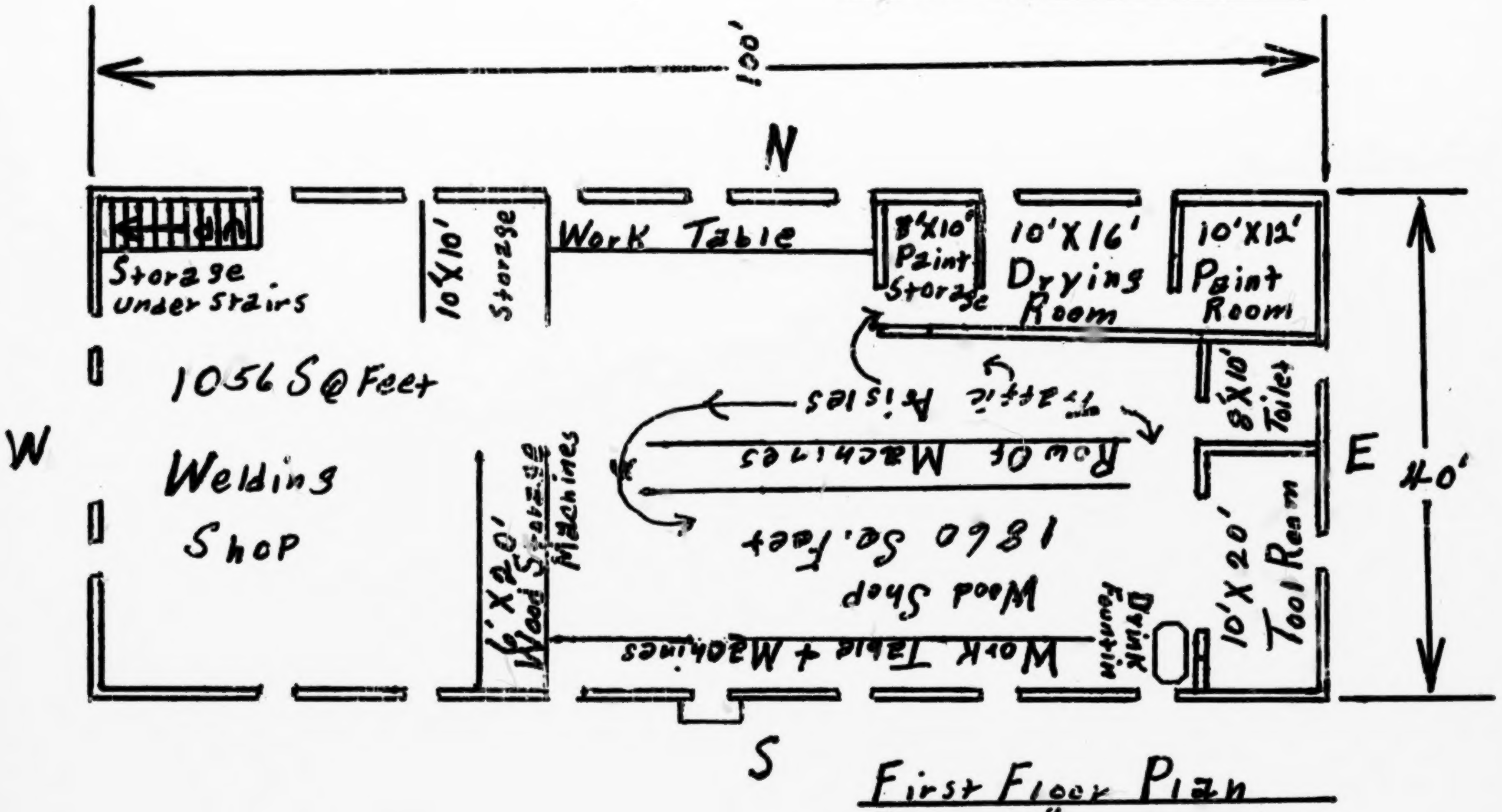
5 braces
8 cold chisels
14 handscrew clamps
1 set of extra cutting heads for Dow turning machine
10 claw hammers
2 pair of linesman's pliers
2 long tapered punches
2 jewelers saw frames
4 scrapers
10 rafter or framing squares
10 try squares
1 set of flat wrenches
2 pair tin snips
2 heavy duty finishing sanders
1 bench saw
1 arm saw
2 jointers
1 drill press
1 tap and die set
6 tape rules
8 putty knives
1 miter boxes
1 drill-grinding attachment
forstner bits
5 spoke shavers
equipment for one toilet

3 awls
2 pairs of scissors
1 breast drill
2 upholstery hammers
1 saw clamps
3 saw filers
1 set of trammel points
1 adjustable wrench
6 C clamps
5 hand saws
1 skill saw
1 grinder
2 heavy duty drills
2 inside calipers
2 hand drills
5 block planes
3 marking gauges
2 half round rasps
6 flat rasps
1 electric welding machine
2 revolving punches
1 cylinder truck
1 set of tips for welding and cutting jobs with gas
2 wire brushes
1 ratchet brace
1 jack jointer plane
2 2' levels
2 glue brushes
4 miter box saws
1 paint shaker
2 saw filing clamps
2 saw sets (hand saw)
1 wheel dresser
14 handscrew clamps
5 bevil squares
5 rip saws
1 sander-grinder
1 router
6 brushes
2 outside calipers
12 jointer planes
1 pipe wrench
3 flat files
2 round rasps
5 hand saw files
2 welding helmets
2 safety goggles
1 complete tip assembly
2 pair bolt cutters
2 dove-tail saws
1 trammel blade
1 power plane
1 tilting arbor bench saw

F. Plan of General Area Relationships for the Industrial Arts Department
(Drawing supplied by shop instructor.)


100'
Material Lockers
8'X10 Office
Library 3 Shelves
8'X22'
28'X30'
Class Room
Drink Fountain
8'X8' Storage
Material Lockers 2'X6'X6'
30'

Second Floor Plan
Scale 1/16" = 1'-0"


100'
N
Storage under stairs
10'X10' Storage
Work Table
8'X10' Paint Storage
10'X16' Drying Room
10'X12' Paint Room
1056 Sq Feet
Traffic Aisles
8'X10' Toilet
W
Welding Shop
6'X20' Wood Storage
Machines
Row of Machines
E
40'
1860 Sq. Feet
Wood Shop
10'X20' Tool Room
Drink Fountain
Work Table + Machines
S

First Floor Plan
Scale 1/16" = 1'-0"
Shop Building
(S-South) (E-East) N-(North)
(W-West)

VII. HOME ECONOMICS DEPARTMENT

Homemaking studies for girls is a well-established part of the curriculum (refer to Texas Education Agency bulletin). Home economics should be provided 7th and 8th grade girls for a minimum of 20 weeks per year. In the high school the elective homemaking program is always popular. It can, with air conditioning, be developed in the summer term as well as the regular school year.

The Hull-Daisetta home economics cottage is favorably located and will form a permanent part of the new high school building facade at the front. The survey staff was not assigned to inspect or make recommendations on this unit. However, the home economics teacher states that the existing unit is too small to cope with the present homemaking enrollment. It also needs maintenance work and redecoration.

A. Purposes of the Home Economics Department

The general educational outcomes of homemaking education for girls (and boys) are the same as for all education: to aid youth to develop their powers, abilities, interests, and ideals, and to use these attributes for the welfare of themselves and others.

Specific purposes in home economics education are as follows:

(1) Selection and purchase of goods and services for the home

(2) Maintenance of satisfactory personal and family relationships

(3) Selection, preparation, serving, conservation, and storage of food for the family

(4) Care and guidance of children

(5) Selection, care, renovation, and construction of clothing

(6) Selection and care of the house and its furnishings

(7) Maintenance of health and home safety

(8) Home care of the sick and first aid

(9) Consumer responsibility and relationships

(10) Selection and provision of educational and recreational experiences for family members

(11) The interrelation of the family and the community

(12) Development of creative, social, managerial, and manipulative skills

(13) Correlation of the knowledge gained in other fields, such as science and art with homemaking

(14) Recognition of the significance of full-time homemaking as a career in our society

B. Discernible Trends in the Home Economics Department

(1) More emphasis is given areas of family living.

(2) Home ownership has placed more emphasis upon home, home care, and furnishings.

(3) Younger marriages, larger families, and a very high divorce rate have pointed up the need for more education in family relationships.

(4) Changes in the economy and the prevalence of working wives and mothers has shifted emphasis away from straight food and clothing programs.

(5) Curriculum patterns and organization are allowing for aspects of homemaking and family life for boys, and home management and family finance for girls.

(6) Practical knowledge needed around and in the home is replacing the emphasis upon vocational training.

(7) Home economics is more closely correlated to college entrance programs so it may also prepare girls for college.

C. Organization and Activities of the Home Economics Department

Home economics will have various groups of varying sizes with some necessarily meeting at the same time. These groups will be dealing with such areas as; foods, clothing, laundry, grooming, discussions, and demonstrations. With so many broad and sometimes diverse areas meeting simultaneously, sufficient space arrangement and allowance must be considered. It is expected that students would have the opportunity to experience learning in these and additional areas according to their individual interests and needs.

D. Probable Courses Offered in the Home Economics Department

(1) In the 7th and 8th grades, home economics for 20 weeks per year would need to be introduced.

(2) In the high school the present course offerings and enrollments are:

Class	Grade
Homemaking I	11 and 12
Homemaking II and III	12
Home and Family	11

E. Renovation and Remodeling Requirements

(1) Maintenance repairs and general redecoration are needed

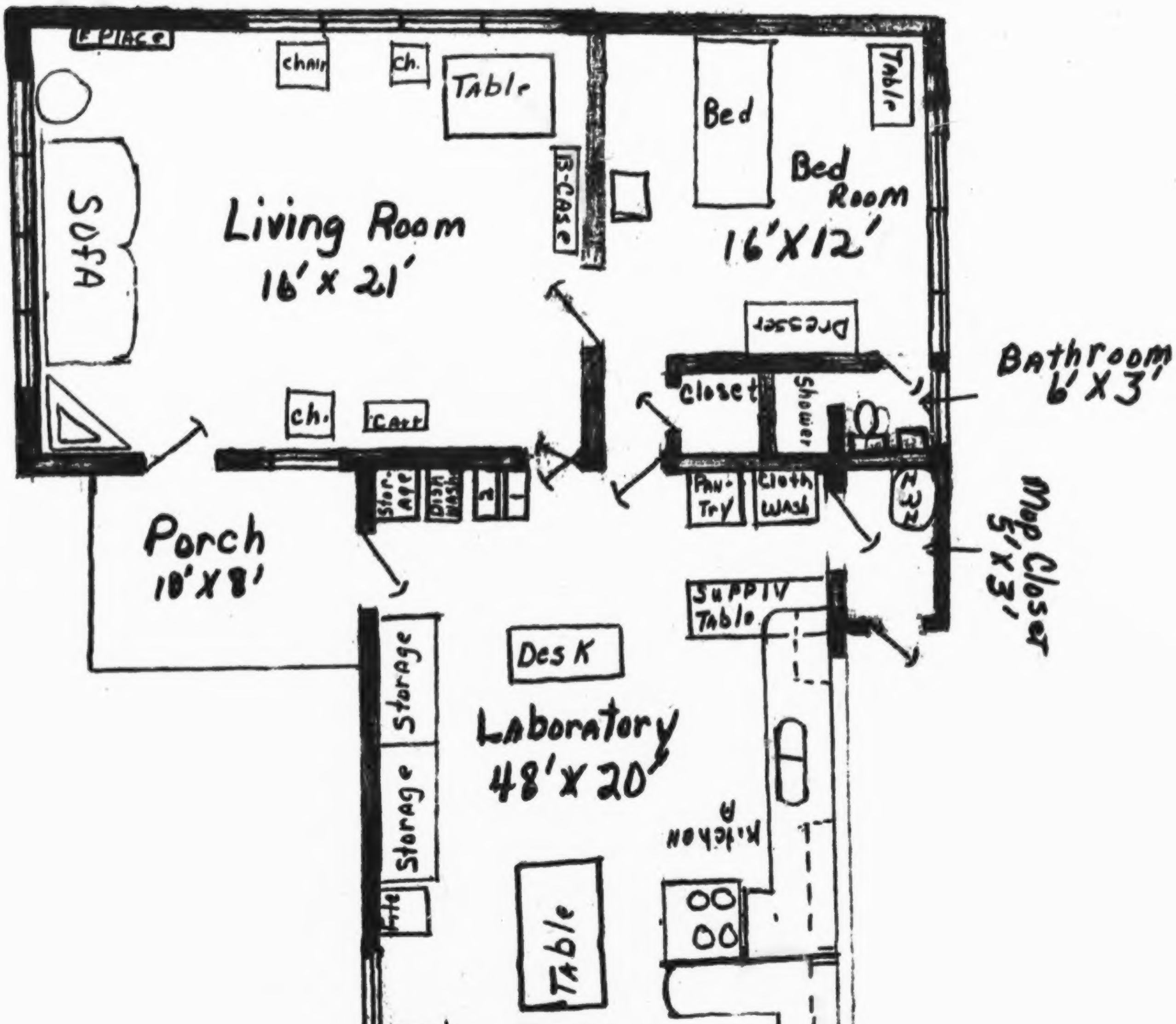
(2) The home economics instructor describes the conditions as follows: In addition to being too small, the homemaking cottage at present is not economically arranged to get full use of all space the cottage structure provides. The drawing below shows the cottage as it is now and how it is furnished.

In the laboratory, the cooking facilities and sewing facilities are combined. Numbers 1 through 10 are machines. The tables down the center are used for cutting out material and for eating.

This is sometimes inconvenient as cooking and sewing are taught both semesters in different classes.

The blackboard is over the dishwasher at the front of the room; the ironing equipment is in the cabinet marked "iron" in the back; and the brooms are in the mop closet with the hot water heater. The following drawing speaks for itself.

Home Economics Cottage at present


F Place
chair
ch.
Table
Bed
Table
SOFA
B-Case
Living Room
16' x 21'
Bed Room
16'X12'
Dresser
Closet
Shower
Bathroom
6'X3'
ch.
Cart
Storage
Dish Wash
Pan-Try
Cloth Wash
Porch
10'X8'
Mop Closet
5'X3'
Supply Table
Desk
Laboratory
48'X20'
Storage
Storage
File
Kitchen A
Table
Table
Table
Table
3
4
5
6
7
8
9
10
Kitchen B
Kitchen C
Kitchen D
Tote Trays
Ref
Freezer

Scale
1" = 8'

(3) In the improved homemaking cottage arrangement of the second drawing submitted by the instructor, the explanations are given room by room. Following is the description of proposed modernization as stated by the home economics instructor:

Living Room

No change in size of room. Addition of two more chairs to match dining table. Addition of china cabinet. Since the furniture is traditional, a different style of drapes is needed. The color of the room needs to be changed - rose beige is suggested. Better overhead lighting is required. Gas log for the fire place. Central heating and air conditioning are recommended. Carpeting or a rug. Pictures.

Fitting Room

Close up door in one wall. Move the bookcase from the living room to this room. On the back wall put full-length mirrors full length of wall. Fluorescent lighting is needed here. The windows can be left as they are. Take the garment closet and tote-tray cabinet from big laboratory and place back to back in space left by removing the closet and shower stall.

Bathroom

Install the door to open the opposite way.

Washroom

Extend length. Install washing machine and dryer. Just inside door place a cabinet for storing washing supplies. Rack for hanging brooms and mops on wall opposite washer and dryer.

Porch

Remains the same

Sewing Laboratory

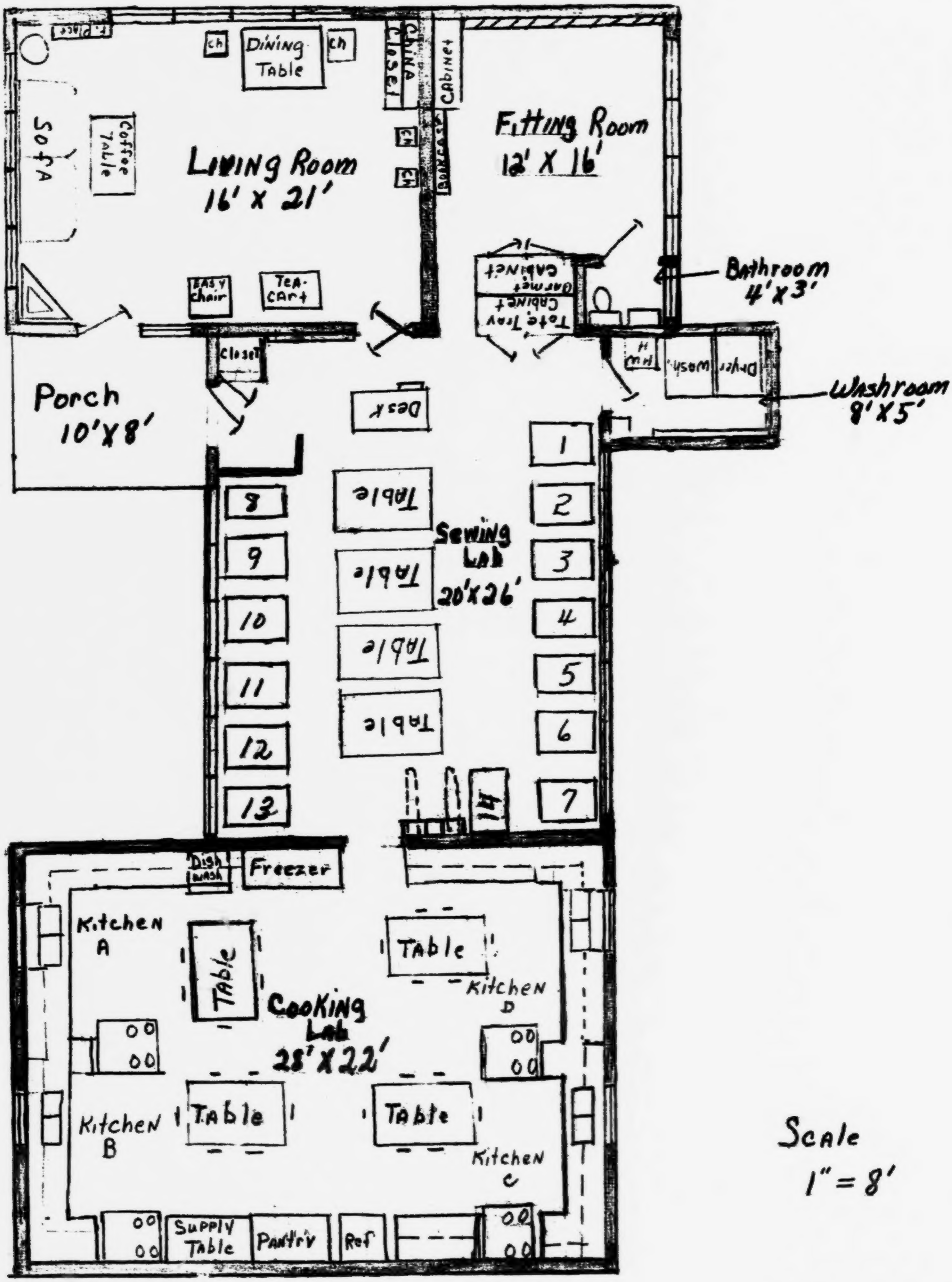
At front portion of laboratory remove front two kitchens. Put machines on either side of room. Keep cutting table the same. In back of room, build in two folding ironing boards with space between for irons and other equipment. Make entrance way, and storage closet. Leave chalkboard as is. Windows on both sides. Fluorescent lighting. Central heating and air conditioning. This room will be used for class lectures as it is better arranged. The present color of the room - yellow - is not good. The ceiling color can remain same, walls should be light-reflecting. Addition of four machines -- buying all new 404 Singer machines - 14 new. Clock in front of room.

Cooking Laboratory

Leave two kitchens as are. Add ten feet to lower portion of present laboratory. Windows over sinks. Portable dishwasher fixed to slide under counter top in kitchen A. Place freezer along same wall. Place supply table on wall opposite dishwasher. Enlarge pantry and place beside supply table. Refrigerator on same wall. Counter tops should not be black, but a light-colored Formica top. Paint walls a light color; leave ceiling same. Fluorescent lighting. Central heating and air conditioning. For each kitchen a place setting of Melmac to feed 5. New cooking utensils and improved preparation utensils, for each kitchen. Clock.

F. Floor Plan of Proposed Renovation of Home Economics Building

(Drawing supplied by home economics instructor.)


F. Place
Ch
Dining Table
Ch
China Closet
Cabinet
Sofa
Coffee Table
Living Room
16' x 21'
Ch
Ch
Bookcase
Fitting Room
12' x 16'
Easy chair
Tea-cart
Garment cabinet
Tote Tray Cabinet
Bathroom
4' x 3'
Closet
H.W.
Wash
Dryer
Washroom
8' x 5'
Porch
10' x 8'
Desk
1
2
3
4
5
6
7
8
9
10
11
12
13
14
Table
Table
Table
Table
Sewing Lab
20' x 26'
Dish wash
Freezer
Kitchen A
Table
Table
Kitchen D
Cooking Lab
28' x 22'
Kitchen B
Table
Table
Kitchen C
Supply Table
Pantry
Ref

Scale
1" = 8'

VIII. INSTRUMENTAL MUSIC

The role of the fine arts including music education in the high school curriculum was discussed above. Music education in all its aspects plays an important part of school life.

Instrumental music requires a great deal of diligent individual practice and group rehearsal to achieve an acceptable performance. But the reward is great in participation, a sense of accomplishment, a knowledge and love of music, and the contribution to the school in public performances. The location of the instrumental music facility should be related to the school auditorium.

As viewed by the survey staff, attempting to remodel the present wood-structure instrumental music building appears uneconomical and unpromising. The building is at best temporary, and alterations will result in unsatisfactory compromises. Nevertheless, building fund limitations may dictate its continued use. Suggestions of the instrumental music instructor for building renovation and remodeling are included below. If a new instrumental music annex were built adjacent to the auditorium building near the stage, a restudy of requirements should be made and adequate educational specifications prepared.[5]

A. Space Arrangement and Facilities of Proposed Renovation of Existing Music Building (Proposals prepared by instrumental music instructor.)

(1) One large rehearsal room. This room should be extended 10 feet to the east, and 5 feet to the west. This would increase the size of the existing room by 50 square feet which is needed because of the increase in size of the high school band, and overall

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[5] Desirable facilities for instrumental music have been studied and reported in NCSC Guide for Planning School Plants, pages 45-47.

music program.

(2) On east side of existing building should be large double doors installed like those of the new auditorium, as well as on the north side entrance. These wider doorways are necessary for faster exit with a minimum of congestion when students are entering and leaving the building with instruments.

(3) One office

(4) One music library room

(5) One uniform room

(6) One new desk chair for office

(7) One instrument storage room

(8) Rest rooms for boys and girls

(9) Janitor utility and storage room

(10) 8 to 12 practice rooms in the existing building, in accordance with architect's specifications. The rooms should be 6 feet wide and 8 feet in length, and one of the rooms should be 12 feet wide and 16 feet in length for group practice on ensemble music which would accomodate up to 8 students maximum (including chairs and stands). Each practice room must have acoustical ceilings, walls, carpet on floors, thick doors with small windows in them, and thick insulated walls between rooms in order to be made as sound-proof as possible. The rooms should be brightly furnished, well-lighted, ventilated, centrally heated and cooled, the large windows in the walls being eliminated altogether.

(11) Central heating, cooling, and ventilation installed in entire building, or at least in the practice rooms.

(12) Covering on all floors, preferably carpets in rehearsal room and practice rooms

(13) Eliminate windows in the large rehearsal room, or install full-length drapes over windows

(14) Install modern lighting in total building

(15) Replace or cover walls in all rooms other than rehearsal room

(16) Check roofing as to it's condition

(17) Add new carpet-covered cubby-hole shelves and storage racks in instrument room to preserve instruments and cases

(18) 3 new large metal music file cabinets

(19) Stero tape recorder with microphones, and stereo record player with outside connections for speaker and variable turntable

(20) 12 new music stands for practice rooms

(21) 25 new Samsonite folding chairs (grey color)

(22) 6 new music stands for rehearsal room

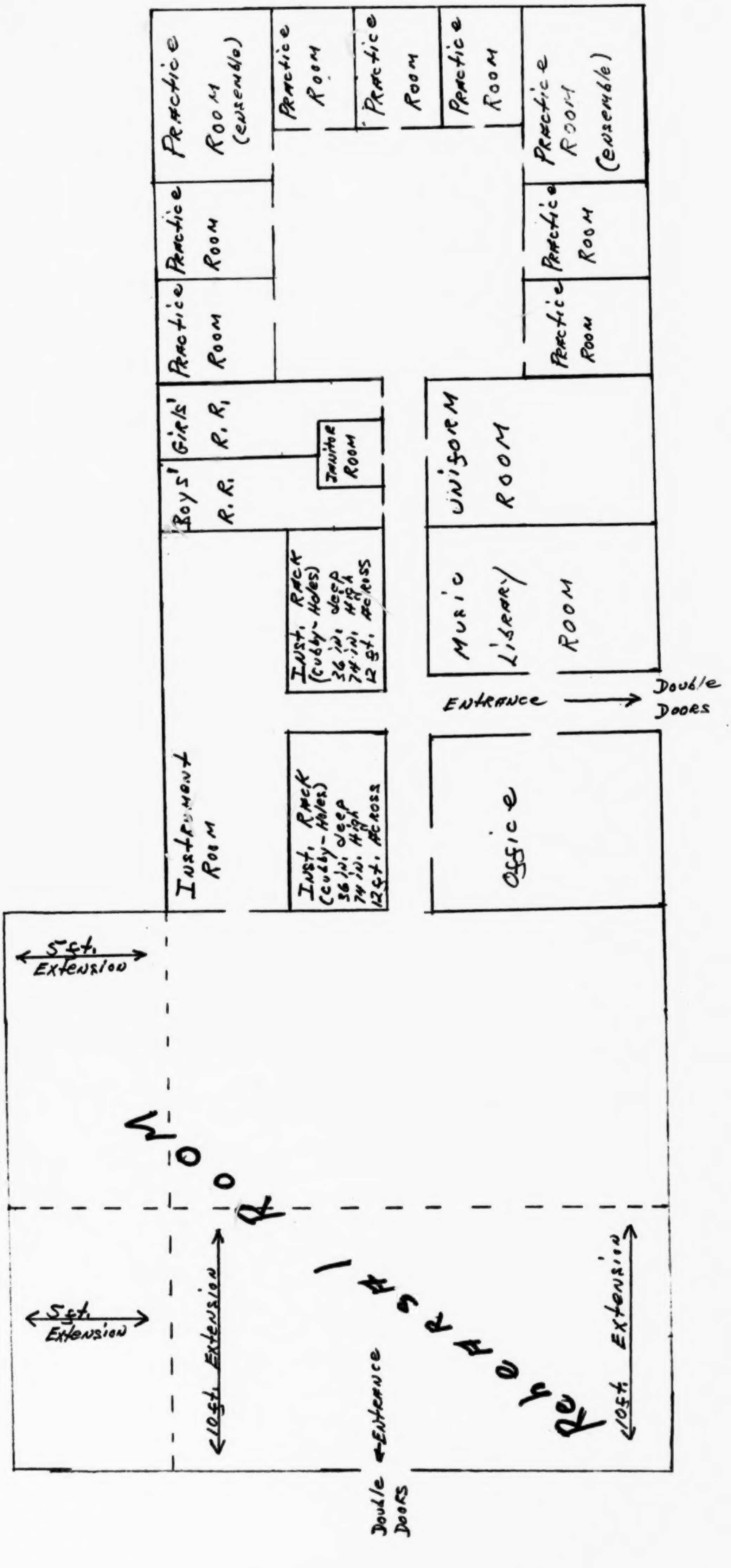
(23) Some form of cabinets in office for band director's use

(24) Permanent staff-lined chalkboard installed along the south wall of rehearsal room

(25) Better and thicker doors installed in office, music library, and uniform rooms. These doors should be 2 inches thick with large windows in them

B. Plan for Remodeling the Music Building

(Drawing supplied by instrumental music instructor)


Practice Room (ensemble)
Practice Room
Practice Room
Practice Room
Practice Room (ensemble)
Practice Room
Practice Room
Practice Room
Practice Room
Girls' R.R.
Boys' R.R.
Janitor Room
Uniform Room
Inst. Rack (cubby-holes) 36 in. deep 74 in. high 12 ft. across
Music Library Room
Entrance → Double Doors
Instrument Room
Inst. Rack (cubby-holes) 36 in. deep 74 in. high 12 ft. across
Office
5 ft. Extension
5 ft. Extension
10 ft. Extension
10 ft. Extension
Rehearsal Room
Double ← Entrance Doors

IX. PHYSICAL EDUCATION DEPARTMENT

Physical education for boys and for girls is a required course in the modern secondary school.

The physical education program is complex since it includes such varsity athletics as football, basketball, baseball, track, and minor sports. The athletics programs furnish entertainment for the community and traditionally have included school band, cheerleaders, student body, and press. They often have independent income which pays officials, special entertainment, travel, team expenses, uniforms, and workers. The school board generally pays the overhead cost of athletics, including physical plant, maintenance, and salaries from the tax-supported school budget. Thus athletics are not only an extra-class phase of the physical education program, but they also are a part of the community traditions and culture.

Physical education includes several related subjects: physical fitness, corrective exercises, safety, driver education, and health. The total program is a compound of courses and activities that often operates as a 12-month program.

The physical education instructors have stated that they are well satisfied with their present facilities. Obviously, however, the gymnasium seats must be altered to allow cross courts and separation of areas for girls' and boys' classes.

The dressing rooms are of primary importance since many physical education activities can take place outdoors. (1) When the proposed new athletics field is developed as planned by the School Board, the existing field will be a splendid physical education area for boys' classes. (2) If the music building were removed, there would be an adequate outdoor space at the rear of the gymnasium for the girls' classes also. With a small amount of grading and drainage a spacious area for girls' physical education could be created, extending to the rear boundary of the school site.

A. Purpose of Physical Education Department

Physical education is a required course for all students in the modern secondary school. The program as a whole is planned to meet the needs of individual students and includes a large variety of activities. All activities should be scaled to the individual student's abilities. Activities should be reasonably strenuous for the normal student because physical development does not come without a measure of activity which taxes the student's physical capacity. Special adaptations should be provided in a restricted program designed for students who are unable to participate in the regular program. Athletics form a laboratory extension of the physical education program.

Specific goals of physical education include the following:

(1) To develop physical recreational competence for health and enjoyment

(2) To develop desirable attitudes toward the area of physical health and recreation education, and to foster an understanding and appreciation of its place in later life

(3) To develop an understanding of and interest in the attainment of physical fitness

(4) To foster the development of desirable personality characteristics and to promote social efficiency

(5) To create opportunities for exercising such character traits as fair play, courtesy, honesty, self-control, loyalty, truthfulness, and good sportsmanship

(6) Endeavoring to create in each student a feeling of both physical and mental well-being

B. Discernible Trends in Physical Education Instruction

(1) Smaller class size

(2) The Conant report and the President's Council on Physical Fitness both recommend required physical education five days a week on the 10th, 11th, and 12th grade levels

(3) More stress on classroom activity utilizing all of the various media for improved instruction

C. Organization and Activities of the Physical Education Department

The physical education program lends itself to almost any scheduling or programing procedure. Individual periods each day is perhaps the more common plan, but blocks of time several days a week, or staggered periods are also feasible. Part of the alloted time should be specifically designated classroom activity.

(1) Provision should be made for instruction and participation in leisure time, carry-over activities such as:

- Golf
- Tennis
- Volleyball, etc.

(2) Driver education is a part of the physical education program and also is often made available during the summer vacation. The physical education staff must be qualified to teach the required classroom portion of this program.

(3) Health education courses should be taught either over a three-year period, or an extended portion of one year. Provision for health lectures, discussions such as maintaining a healthy school environment, etc. may be included here.

(4) A program of restricted activity should also be provided including:

- Corrective physical activity (medical supervision)
- Limited physical activity depending on the extent and nature of the restrictions

(5) Physical education lends itself to many forms and variations of team teaching.

(6) Varsity athletics must be considered a vital part of the physical education program and the use of staff members' time, but caution should be taken to give other vital parts of the program sufficient time and attention.

(7) Where feasible, an active, well-planned program of intramurals is beneficial. The intramural program should be correlated with the activity program in the regular physical education classes, and available to all students for the many benefits of athletic competition.

D. Renovation Requirements of the Physical Education Program

The physical education instructors have recommended the following alterations:

(1) Replace present spectator seats with roll-away seats

(2) Install four basketball goals on the sides of the gymnasium allowing for two cross courts

(3) Space for weights and health classes

(4) More storage area

(5) More toilet facilities

(6) Concession room at front entrance (temporary partitions)

Part III

ELEMENTARY SCHOOL DIVISION

With completion of the Hull Elementary School the school district will have improved its elementary division facilities to acceptable standards. The consultant staff conferred with the architect in the preliminary planning. The program of the elementary division as a whole is not included in this report.

In two respects, however, special consideration is given in the following chapter. First, the consultant staff were requested to meet with the elementary teachers to develop a "nongraded primary" type of organization. Staff preparation is essential to achieve the operation and purposes of the nongraded primary program. Following is a progress report and some further guidelines concerning this phase of the consultant work.

Second, educational specifications are required for the special education (handicapped) program. Since special education enrollment begins in the elementary school, the facilities for special education would normally be treated as a self-contained classroom unit in an elementary school. But at present the Hull-Daisetta class in special education is located in the secondary school building on the Daisetta campus. This location was thought advisable since some of the children enrolled in special education classes are of junior high school age and can participate profitably in many of the junior high school activities. The proximity has proven a satisfactory arrangement. When the existing high school unit is demolished to make way for the new high school, a new facility will need to be designed for special education on the Daisetta campus. The new special education classroom unit should be made part of the new high school plans.

ORGANIZING INSTRUCTION IN THE ELEMENTARY SCHOOL

The Hull-Daisetta school district is seeking solutions to a complex challenge related to educating the elementary school children of the area. Greatly simplified, this challenge is how best to accommodate and capitalize upon - through organization pattern - the great diversity and variation of the children of the district.

The following section of the report is designed to give the school district some guidelines to follow as it continues to seek answers to the challenge. The report has evolved through response from the faculty and staff in the district and hopefully incorporates the best thinking from these sources and elsewhere, while keeping in mind the uniqueness of the district. This report utilizes the efforts of the staff which resulted from thinking through both individually and collectively "the nongraded form" of school organization and its implications for the elementary schools in the district.

What Does "Nongraded" Mean?

The term "nongraded" provides little help in understanding what "nongraded" schools are. This is apparent from the contradictory characteristics of many schools to which the term "nongraded" has been applied after "ungrading" has been accomplished. Semantically, "nongraded" tells nothing about the school except that it purports not to have grades. The term does not indicate what takes the place of the grades, nor anything else about the school. Strictly speaking, "nongraded" refers to "a vertical plan of school organization. It cannot be compared with ability grouping or any other scheme of horizontal organization."[1]

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[1] John I. Goodlad and Kenneth Rehage, "Unscrambling the Vocabulary of School Organization." N.E.A. Journal, November, 1962. p. 35.

In actuality, when understood, "ungraded" refers to much more than an organizational pattern. It refers to a system of beliefs and attempts to implement these beliefs. These beliefs arise from how we perceive children, their growth and development; the structures and uses of knowledge and how it is obtained; the role of the school in the community; and the nature of the learning process. Space here does not permit a full recital of these beliefs or description of all attempts to implement them; but there are certain generalizations which can be stated and which may serve as guidelines for implementation of a system of beliefs amalgamated under the term "nongraded."

Guidelines for Organizing Instruction

These guidelines combine thinking from all sources including the staff and faculty, and are designed to help these persons evolve a thorough-going application of the system of beliefs associated with the "nongraded" school.

The nongraded school is a flexible response to a complex challenge. The challenge is found in the questions: How can we best accommodate the immense diversity and variation found within and among the children --- their status and rates of growth; emotional, physical, intellectual, and social? And further, how can we capitalize upon the strengths which such diversity and variation afford the children and the community? The flexible response is to such matters as evaluation, curriculum organization, grouping for instruction, and working with the community. Rarely do these matters evoke the same response from any two schools.

The nongraded school is oriented to the idea that the school should fit the child, not the child fit the school. This is not the same thing as saying that the school must be child-centered. The nongraded school seeks to harmonize the needs and requirements of the community, the child, and the content and skills areas by taking into account the nature of the child, rather than imposing a preconceived pattern upon him. The nongraded school accommodates the child by allowing him continuous and, at times, even erratic educational development; for this is how children grow in spite of us.

The nongraded school permeates all of the school all the day. Schools which initially have seen nongrading as merely a different vertical organization or continuous progress rather than lock-step grades, have soon found that changes would be needed in other areas as well. Cumulative record keeping has had to be reworked and expanded to record the individualized progression of each child in his unique pattern so that subsequent teaching is not repetitive. Reporting to parents has had to be changed from letter and number grades to written and spoken dialogue between home and school, because a letter or number could not represent meaningfully all of the progress and needs of the child in terms of his abilities and capacities. Flexible teaching and group size to accommodate a variety of instructional purposes has necessitated the design of flexible instructional spaces incorporating such ideas as independent study carrels, operable walls, and interchangeable chalk, tack, and peg board. Yes, even the school room itself has had to change.

The nongraded school is, through the instructional and grouping practices within the school, a testament to the heterogeniety which exists between and within children. If grouping of children is based for some time during the day on one or two characteristics, this "homogeneous" grouping is soon rendered invalid and is changed. It is rendered invalid by the success of the teacher who declares that if he has done a good job with a group of children they should have become more different than similar for having been together. This requires extreme flexibility of grouping, if grouping is necessary at all, and requires individualization of instruction. To substitute twelve or some other number of reading levels for three grades as a grouping basis does not ensure fewer grades and more flexibility. It may mean more rigidity, more "grades." Such factors as social development, pupil-teacher rapport, pupils' attitudes, physical maturity, parents' attitudes, emotional stability, desirable and undesirable friends, are important when pupil placement is considered.[2] In brief, pupil placement and grouping seeks to resolve the question: Where can the child experience the greatest success? Rather than the question: Where is there a group most similar to this child in one or two respects?

The nongraded school is more difficult to operate than a graded school. The nongraded school requires continual assessment in terms of group make-up, allocation of materials, and achievement. It requires a thorough-going dialogue between school and community as to its purposes and how to implement them. These are just two examples of where additional effort is needed.

Being known as a nongraded school changes little; only quite severe changes in the behavior patterns of the individuals concerned make the school nongraded -- and this takes time. The survey consultant has seen "graded" schools meeting individual pupil needs in terms of continuous progress and "nongraded" schools with rigid achievement or instructional levels which appeared to make continuous pupil progress more a matter of chance than design. In some truly "nongraded" schools, some teachers cannot help themselves and refer to "grades," although the grouping system used is best described by practically any other word. The "grade-a-year" plan of ungrading has much merit.

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[2] Adapted from "The Nongraded School in Operation" by John M. Bahner (Chapter IV) of Goodlad and Anderson's book, The Nongraded Elementary School.

The nongraded school by its avoidance of external grade standards stresses motivation intrinsic to the learning process and the content or concepts to be learned. Without the pressure of having to bring the class up to some arbitrary standards, the teacher is freed to consider learning experiences suited to the children; and the child may thus be freed to focus on solutions to problems through inquiry. Most research comparing "graded" to "nongraded" schools finds little difference in achievement and teaching procedures.[3] When one considers the goals of the nongraded school along with the limitations of standardized achievement tests one wonders why the "nongraded" school has fared this well in such a comparison.

The nongraded school requires a curriculum organized around central understandings and elemental behaviors rather than facts. The conceptual organizing threads, e.g., "space is infinite," and the behavioral organizing threads, e.g., "uses more than one source when verifying information," run longitudinally throughout the nongraded school curriculum. Without the "big ideas and important skills" concept of curriculum organization, the nongraded school would face a hopeless task when the children are turned loose to proceed at their own pace. Rather than being perplexed by whether or not the child studied Sweden the previous year, the teacher is concerned over whether the child understands that where and when a person lives has a great deal of bearing on his ways of thinking about and doing things.

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[3] See Robert F. Carbone, "The Nongraded School: An Appraisal," Administrator's Notebook 10:1; September 1961; and also Reginald Kierstead, "A Comparison and Evaluation of Two Methods of Organization for the Teaching of Reading," Journal of Educational Research, 56:317-21, February 1963.

The nongraded school requires more resources with which to operate than the graded school. From the foregoing discussion this should be self-evident. The degree to which additional resources are required will depend on such factors as availability of materials, the amount of planning and conference time already allocated, and the existing teacher-pupil ratio. A start can be made toward nongrading without spending a dime. This can be done when the faculty of a school examines the system of beliefs which binds most nongraded schools together, and conscientiously seeks to answer the following question: Within the existing framework of this school how can these beliefs be implemented?

The nature of elementary school children is complex and demands a complex, difficult type of answer such as is found in the system of beliefs associated with the nongraded school. From the contributions of the faculty and staff at Hull-Daisetta and the survey consultants have come the foregoing generalizations to serve as guidelines while the people concerned seek to extend educational opportunities to the elementary school children in the area.

SPECIAL EDUCATION FACILITIES

Provision should be made in public school systems for a variety of educational techniques and facilities that may serve the needs of all individuals. There are needed programs for the academically gifted, for different talents, interests, and backgrounds, for different stages of individual maturity, for various needs of the community, for the academically slow, for the handicapped child, and so on. Thus most school systems the size of Hull-Daisetta school district or larger have organized one or more classes in special education.

These classes, usually a self-contained nongraded unit in the school, perform a great service for the children enrolled. They enable the children to make continuous progress, to receive individual as well as small group instruction, to have constructive curricular and material facilities, and to develop into contributing, self-supporting members of the community. The children enrolled in these classes will all be different as to ages, levels of academic progress, and individual handicaps or physical disabilities, requiring a versatile teacher and small class size inasmuch as they must be grouped into a single class to have the required training provided.

Therefore, the request of the instructor for a space basically 30 feet by 50 feet appears reasonable. In this space must be provided all the equipment, furnishings, and activities outlined below. Furthermore, since the future needs of special education are not entirely predictable, it is possible that two special education teachers may sometime be employed, working together as a team with a special education group of twice the present size. It is recommended that the space be equipped with a folding partition so that the special education facility might be adapted to team teaching.

A. Objectives

As stated by the special education instructor, the purposes of the program are:

(1) To train the child so that he will be self-supporting

(2) To develop the child's social manners so that in normal society he will be acceptable

(3) To teach the three R's as far as the child is capable

(4) To develop hobbies for his spare time

(5) To teach the child to cook, sew, iron, clean house, not only

for his own use, but because most jobs for the retarded are housework. Boys do good upholstery

(6) To teach the child to enjoy life, learning, and social games

B. Educational Specifications

The program as outlined by the special education instructor will require the following space, special facilities, and utilization:

(1) One room 30' x 50'

- Two entrance doors; one to entrance hall or outside; one to adjacent room which may be an added special education room
- Windows on outside in order to grow seedlings
- Five separate work areas in room
  Teacher office and workroom
  A workshop for crafts
  A combination kitchen and sewing area
  A desk area for studying the three R's
  An area for exercise, square dancing, visual aids, piano, and childrens' lockers, cots (for those with heart ailments or seizures)
- The room should be flexible, arranged for darkening, carpeted and acoustically quiet
- Electrical outlets (about 16) and 220 volt outlet for stove
- High-level illumination, controllable
- Color scheme suggested - yellow and orange

(2) Proposed utilization of areas

(a) Teacher office and workroom, size 8' x 8' approximately; two walls toward office to be 4' of wood. The remainder of the two walls to be of glass so the teacher can view pupils - yet pupils can not see inside. Useful because of parent conferences; children frequently have to fix their clothes with teacher aid; and it can be utilized as a dressing room for plays

- On one wall (with no glass) storage closets are to be built, 24" in depth - shelves 18" apart
- Furniture:
    - Swivel typist chair
    - Desk with electric typewriter (IBM large type) which allows typewriter to be stored
    - Arm chair and hat rack
- Bookcase

(b) Workshop for crafts, 15' x 18' approximately

- A toilet for children; most retarded children need training and this will eliminate the continuous going to and from classroom
- A kitchen sink between kitchen and crafts area on counter of 2' depth
- Shelves on all four sides - with working top 3' wide on three sets of shelves, 24" on other. These to be of standard height, 36" with shelves 18" apart below for storage
- A work table for smaller children in the middle of the room, 6' long x 3' wide, 24" high
- Six chairs (seat 12" from floor)

- Overhead light, two light plugs on outer walls

(c) Kitchen and sewing area; 12' long

- 10' standard kitchen cabinet with upper and lower closet space
- Refrigerator (electric plug)
- Stove (electric plug) at end of cabinets
- Four portable electric sewing machines (electric plugs), each on table 18" x 36", each machine to be allowed 4½' working area for machine and chair
- Typewriter desk and chair
- Ironing board (built in)

(d) Study area

- Raised area 6' wide, 8" higher than floor for teacher's desk and to give plays on
- Teacher's desk U-shaped, with extended top in order for students to get individual instruction, also so that teacher can keep four pupils working at different levels of ability who need minute supervision, while the rest of class are occupied at their own desks
- Ten movable adjustable desks 36" x 18" flat top; height allows for adjustability of at least from a kindergarten child to a high school student
- Teacher's swivel chair
- Four straight chairs, seat 18" from floor
- Ten adjustable chairs for children's desks
- Two rows of shelves on one side - 12" wide 18" apart for library

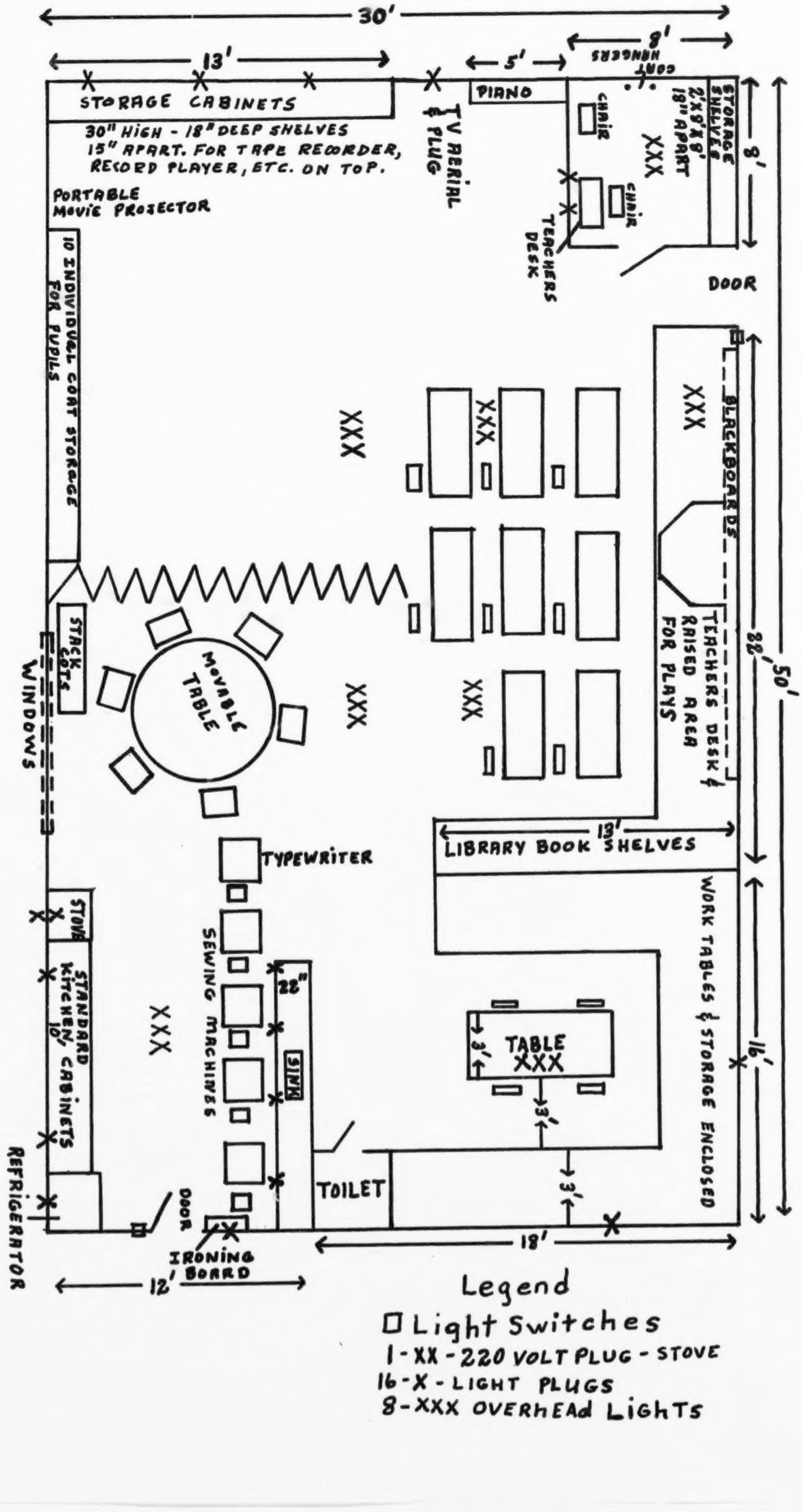
- Roll-up projection screen installed
- Chalkboards and bulletin board installed

(e) Area for exercise

- Ten individual closets for children's coats, etc.
- Space for piano
- Plug for television aerial
- Wall electrical outlets for television, record player, movie projector, and tape recorder for speech defects
- Shelves for tape recorder and playback equipment, etc; 18" wide x 30" high, 13' long
- Movable table, round - 72" diameter
- Eight chairs for table
- Maps: World, United States, and Texas
- Closets for maps, recorder tapes, record player, records, globe, television, etc. (to be specified)
- Space allowed for movable audio-visual projector on stand
- Stack cots for younger children, folding cots for older

C. Space Relationships of Special Education Department

(Drawing submitted by special education instructor)


30'
13'
5'
8'
COAT HANGERS
STORAGE CABINETS
30" HIGH - 18" DEEP SHELVES 15" APART. FOR TAPE RECORDER, RECORD PLAYER, ETC. ON TOP.
PORTABLE MOVIE PROJECTOR
PIANO
TV AERIAL & PLUG
CHAIR
CHAIR
TEACHERS DESK
STORAGE SHELVES 2'X8'X8' 18" APART
8'
DOOR
10 INDIVIDUAL COAT STORAGE FOR PUPILS
BLACKBOARDS
TEACHERS DESK & RAISED AREA FOR PLAYS
22'
50'
MOVABLE TABLE
STACK COTS
WINDOWS
TYPEWRITER
13'
LIBRARY BOOK SHELVES
WORK TABLES & STORAGE ENCLOSED
16'
SEWING MACHINES
22"
SINK
STOVE
STANDARD KITCHEN CABINETS 10'
TABLE
3'
3'
3'
TOILET
REFRIGERATOR
DOOR
IRONING BOARD
12'
18'
Legend
□ Light Switches
1-XX-220 VOLT PLUG - STOVE
16-X-LIGHT PLUGS
8-XXX OVERHEAD LIGHTS

D. Equipment and Furnishings

(Submitted by special education instructor)

(1) In crafts area

- Essential woodwork small tools
- Caning and raffia containers
- Weaving frames (as blind have)
- Rug frame
- Needlepoint frame
- Embroidery hoops (8)
- Clay for modeling
- Leathercraft tools
- Finger paint
- Containers for flower arranging

(2) In cooking area and sewing area

- Necessary cooking utensils and serving dishes
- Iron
- Scissors

(3) In teaching area

- 20 books for each level, preprimers, primers, 1st, 2nd, 3rd
- 30 books (stories for teacher to read)
- Bookcase
- Wall bulletin board to hold new reading words, etc.
- Puzzles
- 12" by 12" mirror for defective speech
- Dolch's basic 250 word cards
- Projection screen

(4) In play area

- Records - at least 30 or 40 of semi-classic works
- Television
- Tape recorder
- Movie projector
- Maps
- Globe
- Athletic equipment as needed
- Cards, dominoes, checkers for social life (Because of his slowness in learning, in normal life the retarded child is left out.)
- Copper window boxes to keep dirt from flower boxes from betting on the window sill (Children learn to root cuttings and develop new plants.)

Part IV

CURRICULUM SCOPE AND SEQUENCE

A developmental study of the Hull-Daisetta high school curriculum was undertaken in 1964-65 by the high school faculty and five curriculum specialists in a series of workshop meetings. For this purpose the high school faculty were assigned to curriculum committees, according to the following divisions:

(1) Language arts
(2) Social studies
(3) Science-mathematics
(4) Fine arts (art and music)
(5) Practical arts (business, home economics, shop)
(6) Physical education

The series of workshop meetings sought several related objectives. The primary objective was to evaluate the high school curriculum with respect to needs for the new building program. This involved projection of the scope and sequence of the curriculum for the years immediately ahead when the new high school building is occupied.

Other problems and necessary tasks arose in the workshop discussions which could not be fully developed the initial year but would be feasible to solve in a satisfactory manner by further cooperative endeavor. The school system generally is lacking written curricular guides as recommended by the accreditation division of the Texas Education Agency. The planning and careful development of content that goes into such teaching guides would require several years to complete. It is not necessary to have subject supervisors as the larger school systems do in order to prepare such written teaching guides. They can be prepared even by small departments with special help and guidance.

Resource units and guides are most essential in the small high school program. For example, the proposed educational materials center of the new high school plan should produce resource guides for the use of programed materials, for audio-visual services, for development and application of educational television, and for use of the professional curriculum conference room. With some help of proposed school aides there can be prepared "resource units" which apply in the instruction of social studies classes, language arts classes, or junior high science classes. Some resource units may be suitable for team teaching organization.

The element most lacking, and probably most difficult to implement, is faculty cooperation in curriculum growth and development. The proposed educational plan of the new high school building promotes a cooperative approach. The science and mathematics classes will cluster about common core facilities - the science reference-reading area, etc. The English and the social studies classes will share the library and several other common facilities such as office-conference rooms.

To promote cooperative professional planning naturally suggested by such common use of departmental facilities, there needs to be organized a systematic vertical outline of the curriculum. The language arts department, as an illustration, needs to establish specific achievement goals for each grade level that will allow for systematic progress and also be a basis for understanding and support of other subject areas. Taking such an approach in the field of reading instruction for example would remove many academic drawbacks by having all the academic teachers informed as to the applications of reading pertinent to their teaching assignment and to every grade level they teach.

Concerning system-wide needs for written teaching guides, for resource units, for departmental standards, for material curriculum analysis, and for organizational approaches which will meet the individual needs of all youth in the district, the survey staff have submitted plans for possible further administrative action in separate memoranda. The following fold-in display produced by the faculty workshop represents the proposed scope and sequence of secondary curriculum content by grade level and by subject fields.

CURRICULUM SCOPE AND SEQUENCE OF
HULL-DAISETTA HIGH SCHOOL

(Chart to be added to the report in April 1965 on completion of the curriculum evaluation workshop series.)

HIGH SCHOOL FACULTY CURRICULUM COMMITTEES
1964-65

Planning Committee:
John Williamson, John Freeman, James Woodfin, Mrs. Inez Cabiness, Mrs. Lois Roecker

Language Arts and Social Studies:
Mrs. Mildred Doucette, Chairman, Mrs. Inez Cabiness, Miss Ida Lee Farris, James D. Mims, Winford Pierce, H. M. Templeton, Mrs. Bobbie Fruge

Science and Mathematics:
Miss Maudry Prejean, Chairman, Joseph Evans, Ford King, Edward Morgan, William Youngblood, George Brown

Practical Arts Committee:
Mrs. Lois Roecker, Chairman, F. H. Harrison, Dewey Holland, Thomas Lilley, Mrs. Mary Beth Young, Mrs. Celestine Taylor, Hurley Fontenot, Owen C. Davis

Fine Arts Committee:
Miss Addie Stewart, Chairman, Mrs. Elaine Graves, Mrs. Juanita Freeman, Douglas Sylva, Timothy Melonson

Health and Physical Education Committee:
Mrs. Lois Brady, Chairman, Elmer Thompson, Ross Echols, Mrs. Mildred Reed

Elementary Committee:
Mrs. Dennie Bexley, Mrs. Bobbie Lu Best, Mrs. Harriet Cowart, Eugene Delzell, Mrs. Mary Ann Evans, Mrs. Vera Shindler, Mrs. Beverly Shivers, Mrs. Martha Steele, Mrs. Jimmie Swensen, Mrs. Linda Sylva, Mrs. Minnie Templeton, Mrs. Ruth Walker, Mrs. Bobbie Sue Woodfin, Miss Sarah Jackson